



CIGARETTE INFORMATION REPORT

PHILIP MORRIS USA RESEARCH AND DEVELOPMENT



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RESEARCH CENTER

RICHMOND, VIRGINIA

C.I. REPORT

January 31, 1989

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ALPHABETICAL INDEX OF BRANDS

BRAND	SIZE	PAGE NO.*	COMPANY**	BRAND	SIZE	PAGE NO.*	COMPANY**
Alpine	K-FM	19	PM	Eve Lights (Box)	120	46	LG
Barclay	K-F	7	BW	Eve Lights Men. (Box)	120M	48	LG
Barclay (Box)	L-F	46	BW	Hi-Lite (Box)	100	46	PM
Barclay	100	22	BW	H. Tareyton	K-NF	48	A
Belair	K-FM	17	BW	Kent (Box)	L-F	42	LO
Belair	100M	32	BW	Kent	K-F	11	LO
Benson & Hedges (Box)	K-F	46	PM	Kent III	K-F	6	LO
Benson & Hedges	100	28	PM	Kent	100	27	LO
Benson & Hedges Men.	100M	35	PM	Kent Men.	100M	48	LO
Benson & Hedges (Box)	100	46	PM	Kent III	100	21	LO
Benson & Hedges Men. (Box)	100M	48	PM	Kent III (Box)	100	46	LO
Benson & Hedges Lights	100	25	PM	Kent Golden Lts. (Box)	L-F	46	LO
Benson & Hedges Lights Men.	100M	35	PM	Kent Golden Lts.	K-F	8	LO
B & H DeLuxe U.L. (Box)	100	21	PM	Kent Golden Lts. Men.	K-FM	16	LO
B & H DeLuxe U.L. Men. (Box)	100M	31	PM	Kent Golden Lts.	100	23	LO
B & H Multifilter	K-FC	40	PM	Kent Golden Lts. Men.	100M	34	LO
Cambridge Full Flavor	KF	XXII	PM	Kent Golden Lts. (Box)	100	46	LO
Cambridge Full Flavor	100	XXII	PM	Kool	R-NFM	48	BW
Cambridge Ultra Lights	100	XX	PM	Kool (Box)	L-FM	48	BW
Cambridge Lights	K-F	XXII	PM	Kool	K-FM	19	BW
Cambridge Lights Men.	K-FM	XXI	PM	Kool Lights	K-FM	16	BW
Cambridge Lights	100	XXI	PM	Kool Milds	K-FM	18	BW
Cambridge Lights Men.	100M	XXI	PM	Kool Milds (Box)	L-FM	18	BW
Camel (Box)	L-F	46	R	Kool Ultra	K-FM	15	BW
Camel	R-NF	43	R	Kool	100M	36	BW
Camel	K-F	12	R	Kool Lights	100M	32	BW
Camel Lights (Box)	L-F	42	R	Kool Milds	100M	48	BW
Camel Lights	K-F	8	R	Kool Ultra	100M	31	BW
Camel Lights	100	25	R	Lark	K-FC	46	LG
Capri (Box)	100	38	BW	Lark	100C	46	LG
Capri Men. (Box)	100M	39	BW	Lark Lights	K-FC	40	LG
Carlton	K-F	6	A	Lark Lights	100C	41	LG
Carlton Men.	K-FM	14	A	L & M (Box)	L-F	46	LG
Carlton (Box)	K-F	46	A	L & M	K-F	11	LG
Carlton	100	20	A	L & M	100	27	LG
Carlton (Box)	100	20	A	Lucky Strike	R-NF	43	A
Carlton Men.	100M	48	A	Lucky Strike	K-F	11	A
Carlton Men. (Box)	100M	48	A	Lucky Strike (Box)	K-F	46	A
Carlton	120	29	A	Lucky Strike Lights	K-F	46	A
Carlton Men.	120M	37	A	Lucky Strike	100	46	A
Century 25's	K-F	46	R	Lucky Strike Men.	100M	48	A
Century Lights 25's	K-F	46	R	Lucky Strike Lights	100	46	A
Century 25's	100	46	R	Marlboro (Box)	L-F	42	PM
Century Lights 25's	100	46	R	Marlboro	K-F	13	PM
Chesterfield	R-NF	48	LG	Marlboro 25's	K-F	13	PM
Chesterfield King	K-NF	43	LG	Marlboro Lights	K-F	10	PM
Doral Full Flavor	K-F	XXII	R	Marlboro Lights 25's	K-F	10	PM
Doral Full Flavor	100	XXII	R	Marlboro Lights (Box)	K-F	9	PM
Doral Lights	K-F	XX	R	Marlboro Lights	100	24	PM
Doral Lights Men.	K-FM	XX	R	Marlboro Lights (Box)	100	26	PM
Doral Lights	100	XXI	R	Marlboro Lts. Men. (Box)	K-FM	17	PM
Doral Lights Men.	100M	XXI	R	Marlboro Lts. Men. (Box)	100M	33	PM
Doral Ultra Lights	100	XX	R	Marlboro Men.	K-FM	19	PM
English Ovals (Box)	K-NF	48	PM	Marlboro	100	27	PM
Eve Slim Lights (Box)	100	46	LG	Marlboro (Box)	100	46	PM
Eve Slim Lights Men. (Box)	100M	48	LG	Max	120	46	LO
				Max Men.	120M	58	LO

*Location of complete analytical data in report.

**Key: A = American; BW = Brown & Williamson; LG = Liggett Group; LO = Lorillard; PM = Philip Morris; R = Reynolds

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ALPHABETICAL INDEX OF BRANDS (cont.)

<u>BRAND</u>	<u>SIZE</u>	<u>PAGE NO.*</u>	<u>COMPANY**</u>	<u>BRAND</u>	<u>SIZE</u>	<u>PAGE NO.*</u>	<u>COMPANY**</u>
Merit Ultra Lts.	K-F	6	PM	Ritz (Box)	100	23	R
Merit (Box)	K-F	8	PM	Ritz Men. (Box)	100M	34	R
Merit	K-F	8	PM	Salem	K-FM	19	R
Merit Men.	K-FM	16	PM	Salem	100M	35	R
Merit Ultra Lts. Men.	K-FM	15	PM	Salem Lights	K-FM	17	R
Merit	100	24	PM	Salem Lights	100M	33	R
Merit Ultra Lts.	100	22	PM	Salem Ultra Lights	K-FM	14	R
Merit Men.	100M	33	PM	Salem Ultra Lights	100M	30	R
Merit Ultra Lts. Men.	100M	30	PM	Salem Slim Lights (Box)	100M	39	R
More	120	29	R	Saratoga (Box)	120	29	PM
More Men.	120M	37	R	Saratoga Men. (Box)	120M	37	PM
More Lights (Box)	100	38	R	Satin	100	25	LO
More Lights Men. (Box)	100M	39	R	Satin Men.	100M	34	LO
Newport (Box)	L-FM	48	LO	Silva Thins	100	46	A
Newport	K-FM	19	LO	Silva Thins Men.	100M	48	A
Newport (25's)	KFM	48	LO	Spring	100M	48	LO
Newport	100M	36	LO	St. Moritz	100	46	LG
Newport (25's)	100M	48	LO	St. Moritz Men.	100M	48	LG
Newport Lights	K-FM	16	LO	Tall	120	46	A
Newport Lights (Box)	L-FM	48	LO	Tall Men.	120M	48	A
Newport Lights	100M	33	LO	Tareyton	K-FC	40	A
Newport Lights (Box)	100M	48	LO	Tareyton	100C	41	A
Now (Box)	L-F	46	R	Tareyton Lights	K-FC	40	A
Now	K-F	6	R	Tareyton Long Lights	100C	41	A
Now Men.	K-FM	14	R	Triumph	K-F	46	LO
Now	100	20	R	Triumph Men.	K-FM	48	LO
Now Men.	100M	30	R	Triumph	100	46	LO
Old Gold	K-NF	48	LO	Triumph Men.	100M	48	LO
Old Gold	K-F	13	LO	True	K-F	7	LO
Old Gold Lights	K-F	46	LO	True	100	23	LO
Old Gold	100	46	LO	True Men.	K-FM	15	LO
Pall Mall	K-F	46	A	True Men.	100M	32	LO
Pall Mall Lights	100	46	A	Vantage	K-F	9	R
Pall Mall	K-NF	43	A	Vantage Men.	K-FM	17	R
Pall Mall	100	28	A	Vantage	100	23	R
Parliament Lights (Box)	L-F	42	PM	Vantage Men.	100M	32	R
Parliament Lights	K-F	9	PM	Vantage Ultra Lts.	K-F	7	R
Parliament Lights	100C	41	PM	Vantage Ultra Lts.	100	21	R
P.M. Commander	K-NF	43	PM	Viceroy	K-F	13	BW
P.M. International (Box)	100	46	PM	Viceroy Lights	K-F	10	BW
P.M. International Men. (Box)	100M	48	PM	Viceroy Lights	100	26	BW
Philip Morris	K-NF	43	PM	Viceroy	100	28	BW
Players (Box)	R-NF	48	PM	Va. Slims	100	38	PM
Players (Box)	K-F	46	PM	Va. Slims Men.	100M	39	PM
Players Men. (Box)	K-FM	48	PM	Va. Slims Lights (Box)	100	38	PM
Players (Box)	100	46	PM	Va. Slims UL (Box)	100	38	PM
Players Men. (Box)	100M	48	PM	Va. Slims UL Men. (Box)	100M	39	PM
Players Lights 25's	K-F	46	PM	Va. Slims Lights (Box)	120	29	PM
Players Lights Men. 25's	K-FM	48	PM	Va. Slims Lts. Men. (Box)	100M	39	PM
Players Lights 25's	100	46	PM	Va. Slims Lts. Men. (Box)	120M	37	PM
Players Lights Men. 25's	100M	48	PM	Winston (Box)	L-F	42	R
Raleigh	K-NF	48	BW	Winston	K-F	13	R
Raleigh	K-F	12	BW	Winston Lights (Box)	L-F	42	R
Raleigh Lights	K-F	10	BW	Winston Lights	K-F	9	R
Raleigh Lights	100	26	BW	Winston Ultra Lights	K-F	7	R
Raleigh	100	27	BW	Winston Lights	100	26	R
Richland 25's	K-F	46	BW	Winston Lights (Box)	100	24	R
Richland Men. 25's	K-FM	48	BW	Winston	100	28	R
Richland Lights 25's	K-F	46	BW	Winston Ultra Lights	100	20	R
Richland Lights 25's	100	46	BW				

*Location of complete analytical data in report.

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PM = Philip Morris; R = Reynolds

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C.I. HIGHLIGHTSJANUARY, 1989NEW BRANDSPHILIP MORRIS
ALPINE 80 (BOX)
ALPINE LIGHTS 80 (BOX)

Philip Morris has introduced Alpine 80 (Box) and Alpine Lights 80 (Box) cigarettes the New York Metro area as a branded generic. The Alpine cigarettes deliver 15 mg tar, 0.9 mg nicotine and 0.7 mg smoke menthol; the Alpine Lights cigarettes deliver 9 mg tar, 0.7 mg nicotine and 0.6 mg smoke menthol.

R. J. REYNOLDS
MORE WHITE LIGHTS 120 (PLAIN & MENTHOL)

R. J. Reynolds is test marketing More White Lights 120 (plain and menthol) cigarettes in New York City. These cigarettes have a 21 mm circumference and white cigarette paper. The More Lights currently on the market have brown paper. The plain version delivers 9 mg tar and 0.7 mg nicotine; the menthol version delivers 11 mg tar, 0.7 mg nicotine and 0.5 mg smoke menthol. Subjectively these cigarettes were characterized as being dry, mouthcoating and having low to moderate impact.

R. J. REYNOLDS
VANTAGE EXCEL 100

R. J. Reynolds is test marketing Vantage Excel 100 cigarettes in Detroit, Michigan; Little Rock, Arkansas; and New Orleans, Louisiana. The advertising states there is "less smoke from the lit end" of this product. This new cigarette utilizes cigarette paper with magnesium hydroxide, and the blend of this new cigarette contains 77% expanded tobacco. This cigarette delivers 9 mg tar and 0.7 mg nicotine. Subjectively this cigarette was found to be low in tobacco character, dry and mouthcoating.

R. J. REYNOLDSBEST VALUE FULL FLAVOR 85 & 100
BEST VALUE FILTER LIGHTS 85 & 100 (PLAIN & MENTHOL)
BEST VALUE ULTRA LIGHTS 100

R. J. Reynolds is distributing Best Value generic cigarettes in K-Mart stores. These are the first generic products from Reynolds. The blend of these products contains a high level of reconstituted material (30%). Extruded tobacco filaments (3-4%) were observed in the blend of these cigarettes. The binder for the extruded tobacco filaments is glycerin. The Full Flavor cigarettes deliver 15 mg tar and 1 mg nicotine; the Lights cigarettes deliver 11 mg tar and 0.8 mg nicotine; and the Ultra Light cigarettes deliver 6 mg tar and 0.5 mg nicotine. The smoke menthol delivery is 0.5 mg.

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January, 1989

BROWN & WILLIAMSONKOOL ULTRA LIGHTS 85 AND 100KOOL LIGHTS 85 & 100

Brown & Williamson is test marketing Kool Ultra Lights 85 and 100 and Kool Lights 85 and 100 cigarettes in St. Louis, Missouri. These cigarettes have new package graphics and white tipping. The Kool Ultra and Kool Lights currently on the market have cork tipping. The Kool Ultra Lights continue to use the Actron filter. No changes were noted in smoke deliveries between the Kool Ultra and Kool Lights currently on the market and the test market brands.

THE LIGGETT GROUPPYRAMID 85 (NF) & PYRAMID LIGHTS 85 & 100PYRAMID LIGHTS 100 (MENTHOL) & PYRAMID ULTRA LIGHTS 100

The Liggett Group has introduced nationally Pyramid 85 (NF), Pyramid Lights 85 and 100, Pyramid Lights 100 (Menthol) and Pyramid Ultra Lights 100 cigarettes. These sub-generic priced cigarettes will sell for \$2.50 less per carton (\$5.00-\$7.00) than generic cigarettes. The nonfilter cigarette delivers 21 mg tar and 1.4 mg nicotine, the Lights cigarettes deliver 14 mg tar and 1.1 mg nicotine; the Ultra Lights cigarettes deliver 6 mg tar and 0.6 mg nicotine. The smoke menthol delivery is 0.5 mg.

BRAND MODIFICATIONSR. J. REYNOLDSWINSTON 85

Reynolds has reduced the tobacco weight of Winston 85 (0.751 to 0.714 g). This lower tobacco weight was seen only in Winston 85 that have been manufactured since October, 1988. This resulted in a lower total RTD (128 to 118 mm of H₂O), puff count (8.7 to 8.1) and ventilation level (9 to 6%). A higher total alkaloid level (1.87 to 2.02%) was observed. No changes were noted in smoke deliveries. The cigarette appears less firm because of the lower tobacco weight.

BROWN & WILLIAMSONVICEROY 85 & 100

Brown & Williamson has changed the blend of Viceroy 85 and 100 cigarettes by lowering the level of expanded stems (13 to 5%) and replacing the typical dark reconstituted tobacco with the lighter colored reconstituted tobacco used in some of their other brands. This blend change resulted in a higher tobacco weight. The smoke deliveries increased resulting from the higher tobacco weight and the use of a less porous cigarette paper. Both the static burn time and the filler rod TPM increased correlating with these changes. Ventilation was added to Viceroy 85 (None to 10%) and was increased in Viceroy 100 (8 to 17%). Brown & Williamson has made Viceroy 85 and 100 branded generic products and will sell them at a price similar to the Cambridge and Doral products.

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NEW BRANDS

PHILIP MORRIS

ALPINE 80 (BOX)

ALPINE LIGHTS 80 (BOX)

Philip Morris has introduced Alpine and Alpine Lights 80 (Box) cigarettes in the New York Metro area as branded generics. These cigarettes are brand extensions of Alpine 85 & 100 and Alpine Lights 85 & 100 currently on the market.



Alpine 80 (Box)

SMOKE

	Full Flavor	Lights
Butt Length, mm	26	33
FTC Tar, mg/cigt.	15.3	9.1
Nicotine, mg/cigt.	0.92	0.66
Puffs/cigt.	7.8	7.3
Filtration Eff., %	43	55
Filler Rod TPM, mg/cigt.	28.9	28.9
CO, mg/cigt.	14.8	10.3

CIGARETTE

Total RTD, mm of H ₂ O	123	121
Static Burn. Time, min.	7.8	7.5
Length, mm	79.0	79.1
Circumference, mm	24.8	24.8

PAPER

Components		
Type	Cit.	Cit.
Percent	0.4	0.4
Permeability, ml/cm ² .min.	24	30
Porosity, sec.	21	17

FILTER

Type	CA	CA
RTD, mm of H ₂ O	70	89
Length, mm	19.0	25.0
Weight, g	0.11	0.15
Fiber denier/shape	3.0/Y	3.3/Y
Tipping paper length, mm	23	30
Color	White	White
Ventilation, %	None	23
Type/Rows	-	L/2

FILLER

Total alkaloids, % (DWB)	2.10	2.02
Total red. sugars, % (DWB)	8.5	8.8
Wt. of tob., g (12.5% O.V.)	0.694	0.629
Rod Density, g/cc	0.236	0.237
Reconstituted Tob., %	20	20
E.S., %	3	3
Expanded Tob., %	15	15

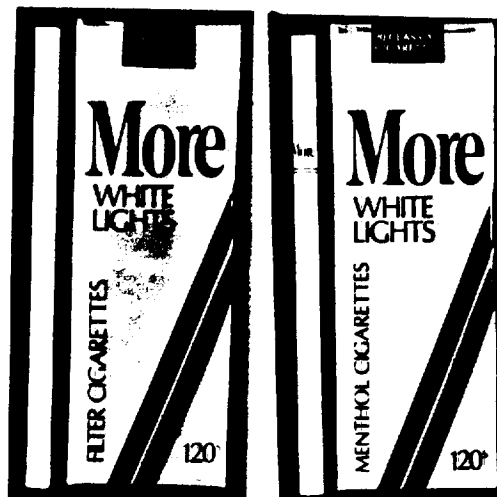
MENTHOL, MG/CIGT.

Smoke	0.69	0.63
Filler	2.2	2.3
Filter	0.8	1.4

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R. J. REYNOLDS**MORE WHITE LIGHTS 120 (PLAIN & MENTHOL)**

R. J. Reynolds is test marketing More White Lights 120 (plain & menthol) cigarettes in New York City. These cigarettes have white cigarette paper, More Lights 120 have brown cigarette paper. The More White Lights are lower in smoke deliveries than the More Lights with brown cigarette paper. Lower total and filter RTD and citrate levels were noted on More White Lights.



	More White Lights 120	More Lights 120	More White Lights Men. 120	More Lights Men. 120
<u>SMOKE</u>				
Butt Length, mm	39	42	39	42
FTC Tar, mg/cigt.	9.4	12.0	11.0	12.0
Nicotine, mg/cigt.	0.70	0.89	0.80	0.92
Puffs/cigt.	11.5	13.0	11.4	12.0
Filtration Eff., %	56	59	58	59
Filler Rod TPM, mg/cigt.	26.1	32.4	28.3	30.8
CO, mg/cigt.	11.2	17.6	13.8	17.3
<u>CIGARETTE</u>				
Total RTD, mm of H ₂ O	186	217	205	223
Static Burn. Time, min.	6.8	7.9	7.4	7.5
Length, mm	119.8	119.5	119.9	119.1
Circumference, mm	21.0	21.1	21.2	21.2
<u>PAPER</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.6	1.2	0.6	1.3
Permeability, ml/cm ² .min.	37	39	38	39
Porosity, sec.	13	13	14	14
Color	White	Brown	White	Brown
<u>FILTER</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	164	190	168	186
Length, mm	35.0	35.1	34.9	35.1
Weight, g	0.17	0.16	0.16	0.17
Fiber denier/shape	3.9/Y	3.4/Y	3.7/Y	3.4/Y
Tipping paper length, mm	36	39	36	39
Color	White	Brown	White	Brown
Ventilation, %	42	39	36	33
Type/Rows	L/1	L/1	L/1	L/1
<u>FILLER</u>				
Total alkaloids, % (DWB)	1.92	1.98	2.08	1.92
Total red. sugars, % (DWB)	7.0	6.8	7.5	7.3
Wt. of tob., g (12.5% O.V.)	0.733	0.752	0.738	0.746
Rod Density, g/cc	0.246	0.251	0.243	0.249
Reconstituted Tob., %	24	24	24	24
E.S., %	None	None	None	None
Expanded Tob., %	16	16	16	16
<u>MENTHOL, MG/CIGT.</u>				
Smoke	-	-	0.45	0.51
Filler	-	-	2.9	2.9
Filter	-	-	0.6	0.6

January, 1989

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R. J. REYNOLDS
VANTAGE EXCEL 100

R. J. Reynolds is test marketing Vantage Excel 100 cigarettes in Detroit, Little Rock, and New Orleans. The advertising states there is "less smoke from the lit end" with this product. The Vantage Excel is different from Vantage 100 in CO delivery and filler rod TPM. These differences can be attributed to a more porous cigarette paper, a blend difference, and a lower tobacco weight.



	<u>Vantage Excel 100</u>	<u>Vantage 100</u>
<u>SMOKE</u>		
Butt Length, mm	38	37
FTC Tar, mg/cigt.	9.1	8.7
Nicotine, mg/cigt.	0.73	0.62
Puffs/cigt.	8.2	8.4
Filtration Eff., %	41	59
Filler Rod TPM, mg/cigt.	21.8	27.1
CO, mg/cigt.	7.1	11.6
<u>CIGARETTE</u>		
Total RTD, mm of H ₂ O	91	141
Static Burn. Time, ² min.	5.8	6.6
Length, mm	98.5	99.3
Circumference, mm	24.8	25.0
<u>PAPER</u>		
Components		
Type	Mg(OH) ₂ 23.8	Cit.
Percent	CaCO ₃ 12.8	1.0
Permeability, ml/cm ² .min.	135 ³	36
Porosity, sec.	6*	14
<u>FILTER</u>		
Type	CA	CA
RTD, mm of H ₂ O	50	122
Length, mm ²	30.7	27.5
Weight, g	0.21	0.30
Fiber denier/shape	11.3/Y	2.6/Y
Tipping paper length, mm	35	34
Ventilation, %	31	34
Type/Rows	HL/1	HL/1
<u>FILLER</u>		
Total alkaloids, % (DWB)	1.90	1.82
Total red. sugars, % (DWB)	9.8	6.8
Wt. of tob., g (12.5% O.V.)	0.559	0.781
Rod Density, g/cc	0.168	0.219
Reconstituted Tob., %	None	24
E.S., %	None	None
Expanded Tobacco, %	77	20

*Perforated

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R. J. REYNOLDS**BEST VALUE FULL FLAVOR 85 & 100**

R. J. Reynolds is distributing Best Value generic cigarettes in K-Mart stores. Extruded tobacco filaments were incorporated (3-4%) in the blend of these cigarettes.

**MANUFACTURER:**

	<u>RJR</u>	<u>PM</u>	<u>RJR</u>	<u>PM</u>
	Best	Best	Best	Best
	Value Full	Buy Full	Value Full	Buy Full
	<u>Flavor 85</u>	<u>Flavor 85</u>	<u>Flavor 100</u>	<u>Flavor 100</u>

SMOKE

Butt Length, mm	28	28	38	35
FTC Tar, mg/cigt.	14.3	15.3	15.1	15.4
Nicotine, mg/cigt.	0.97	1.00	1.05	1.03
Puffs/cigt.	7.6	8.7	8.3	9.2
Filtration Eff., %	47	47	53	49
Filler Rod TPM, mg/cigt.	28.1	30.1	29.7	28.5
CO, mg/cigt.	14.5	13.4	16.9	16.1

CIGARETTE

Total RTD, mm of H ₂ O	111	113	133	115
Static Burn. Time, min.	6.9	8.7	7.0	8.3
Length, mm	84.3	83.9	99.0	98.9
Circumference, mm	24.9	24.8	25.0	24.9

PAPER

Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.5	0.5	0.5	0.5
Permeability, ml/cm ² .min.	27	23	23	34
Porosity, sec.	19	21	21	17

FILTER

Type	CA	CA	CA	CA
RTD, mm of H ₂ O	61	73	76	77
Length, mm	21.1	21.0	31.0	27.5
Weight, g	0.11	0.13	0.18	0.17
Fiber denier/shape	2.7/Y	3.0/Y	3.8/Y	3.8/Y
Tipping paper length, mm	25	25	35	32
Ventilation, %	6	12	None	12
Type/Rows	HL/1	L/2	-	L/2

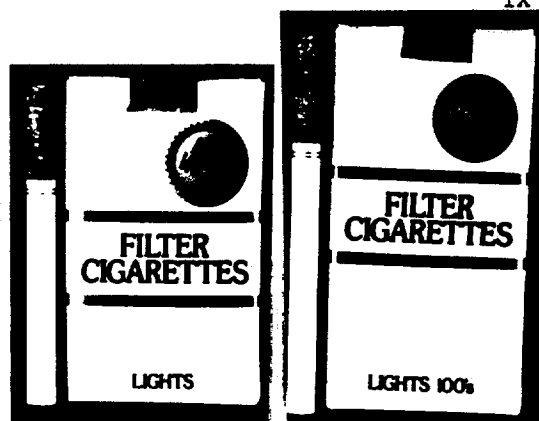
FILLER

Total alkaloids, % (DWB)	2.01	1.69	2.00	1.89
Total red. sugars, % (DWB)	7.4	8.9	7.5	9.0
Wt. of tob., g (12.5% O.V.)	0.683	0.674	0.757	0.777
Rod Density, g/cc	0.220	0.219	0.224	0.220
Reconstituted Tob., %	30	21	30	21
E.S., %	None	6	None	6
Expanded Tobacco, %	24	18	24	18

2021196176

R. J. REYNOLDS**BEST VALUE FILTER LIGHTS 85 & 100**

R. J. Reynolds is distributing Best Value generic cigarettes in K-Mart stores. Extruded tobacco filaments were incorporated (3-4%) in the blend of these cigarettes.

**MANUFACTURER:**

	<u>RJR</u>	<u>PM</u>	<u>RJR</u>	<u>PM</u>
	Best	Best	Best	Best
	Value Filter	Buy Filter	Value Filter	Buy Filter
	<u>Lights 85</u>	<u>Lights 85</u>	<u>Lights 100</u>	<u>Lights 100</u>

SMOKE

Butt Length, mm	34	35	38	39
FTC Tar, mg/cigt.	9.9	10.3	10.9	10.2
Nicotine, mg/cigt.	0.73	0.73	0.85	0.74
Puffs/cigt.	7.1	7.8	9.5	9.3
Filtration Eff., %	58	52	54	56
Filler Rod TPM, mg/cigt.	28.6	34.0	28.3	30.0
CO, mg/cigt.	11.1	10.8	10.5	12.3

CIGARETTE

Total RTD, mm of H ₂ O	106	118	97	117
Static Burn. Time, min.	6.9	8.3	7.2	7.4
Length, mm	84.1	83.9	98.9	99.5
Circumference, mm	24.9	24.8	24.9	24.9

PAPER

Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.6	0.5	0.6	0.5
Permeability, ml/cm ² .min.	27	23	27	34
Porosity, sec.	19	21	19	17

FILTER

Type	CA	CA	CA	CA
RTD, mm of H ₂ O	82	100	77	105
Length, mm	27.0	27.0	30.9	31.3
Weight, g	0.14	0.17	0.18	0.19
Fiber denier/shape	2.7/Y	3.0/Y	4.7/Y	3.0/Y
Tipping paper length, mm	31	32	35	36
Ventilation, %	21	21	34	29
Type/Rows	HL/1	L/2	HL/1	L/2

FILLER

Total alkaloids, % (DWB)	2.00	1.86	1.96	1.75
Total red. sugars, % (DWB)	7.4	8.5	7.5	8.9
Wt. of tob., g (12.5% O.V.)	0.629	0.604	0.755	0.725
Rod Density, g/cc	0.223	0.217	0.225	0.216
Reconstituted Tob., %	30	21	30	21
E.S., %	None	6	None	6
Expanded Tobacco, %	24	18	24	18

2021196177

X

R. J. REYNOLDS**BEST VALUE LIGHTS 85 & 100 MENTHOL**

R. J. Reynolds is distributing Best Value generic cigarettes in K-Mart stores. Extruded tobacco filaments were incorporated (3-4%) in the blend of these cigarettes.

**MANUFACTURER:**

	<u>RJR</u>	<u>PM</u>	<u>RJR</u>	<u>PM</u>
	<u>Best Value Lights 85 Menthol</u>	<u>Best Buy Lights 85 Menthol</u>	<u>Best Value Lights 100 Menthol</u>	<u>Best Buy Lights 100 Menthol</u>
<u>SMOKE</u>				
Butt Length, mm	34	35	38	39
FTC Tar, mg/cigt.	10.8	10.6	11.0	10.6
Nicotine, mg/cigt.	0.78	0.74	0.85	0.75
Puffs/cigt.	7.3	7.8	9.2	9.5
Filtration Eff., %	56	56	52	58
Filler Rod TPM, mg/cigt.	29.4	32.3	28.9	30.3
CO, mg/cigt.	12.8	11.3	9.9	11.0
<u>CIGARETTE</u>				
Total RTD, mm of H ₂ O	112	119	87	126
Static Burn. Time, min.	7.4	7.5	7.1	8.0
Length, mm	83.9	83.5	98.6	99.5
Circumference, mm	24.9	24.9	25.0	24.8
<u>PAPER</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.5	0.6	0.6	0.6
Permeability, ml/cm ² .min.	27	27	25	34
Porosity, sec.	19	18	20	15
<u>FILTER</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	81	96	78	112
Length, mm	27.0	27.0	31.0	31.5
Weight, g	0.14	0.16	0.18	0.19
Fiber denier/shape	2.6/Y	3.2/Y	3.8/Y	3.2/Y
Tipping paper length, mm	31	32	35	36
Ventilation, %	19	20	42	29
Type/Rows	HL/1	L/2	HL/1	L/2
<u>FILLER</u>				
Total alkaloids, % (DWB)	2.07	1.84	2.04	1.70
Total red. sugars, % (DWB)	6.9	9.3	7.1	9.1
Wt. of tob., g (12.5% O.V.)	0.632	0.616	0.746	0.735
Rod Density, g/cc	0.225	0.220	0.221	0.220
Reconstituted Tob., %	30	21	30	21
E.S., %	None	6	None	6
Expanded Tobacco, %	24	18	24	18
<u>MENTHOL, MG/CIGT.</u>				
Smoke	0.53	0.50	0.58	0.52
Filler	2.8	3.7	3.3	4.5
Filter	1.0	0.6	1.0	0.6

2021196178

January, 1989

R. J. REYNOLDS
BEST VALUE ULTRA LIGHTS 100

R. J. Reynolds is distributing Best Value generic cigarettes in K-Mart stores. Extruded tobacco filaments were incorporated (3-4%) in the blend of these cigarettes.



MANUFACTURER:

R. J. REYNOLDS

PHILIP MORRIS

Best Value Ultra
Lights 100

Best Buy Ultra
Lights 100

SMOKE

Butt Length, mm	38	39
FTC Tar, mg/cigt.	5.9	6.7
Nicotine, mg/cigt.	0.51	0.52
Puffs/cigt.	9.7	9.9
Filtration Eff., %	66	64
Filler Rod TPM, mg/cigt.	28.7	29.0
CO, mg/cigt.	7.2	6.9

CIGARETTE

Total RTD, mm of H ₂ O	115	113
Static Burn. Time, min.	6.9	8.1
Length, mm	98.6	99.4
Circumference, mm	25.0	24.9

PAPER

Components		
Type	Cit.	Cit.
Percent	0.6	0.6
Permeability, ml/cm ² .min.	26	25
Porosity, sec.	19	18

FILTER

Type	CA	CA
RTD, mm of H ₂ O	135	134
Length, mm	30.9	31.5
Weight, g	0.20	0.20
Fiber denier/shape	3.0/Y	3.0/Y
Tipping paper length, mm	35	36
Ventilation, %	53	50
Type/Rows	HL/1	L/2

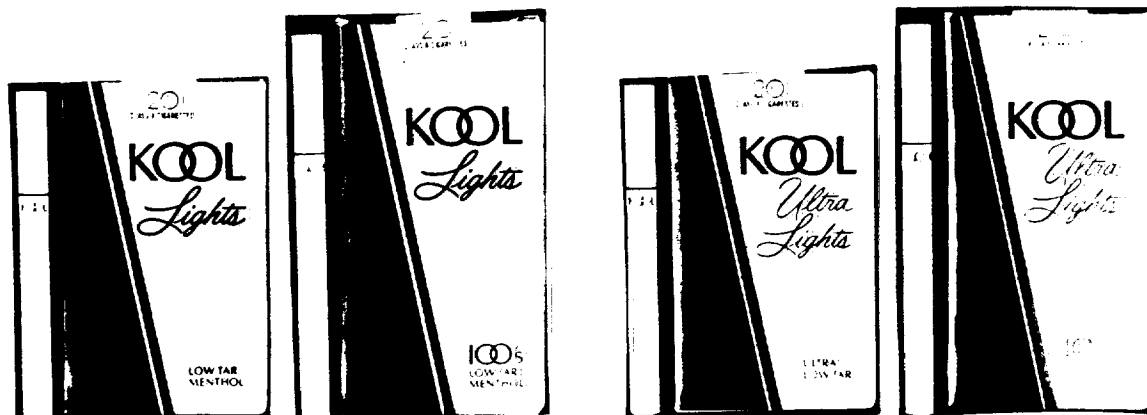
FILLER

Total alkaloids, % (DWB)	2.14	1.89
Total red. sugars, % (DWB)	6.4	9.4
Wt. of tob., g (12.5% O.V.)	0.741	0.723
Rod Density, g/cc	0.221	0.215
Reconstituted Tob., %	30	21
E.S., %	None	6
Expanded Tobacco, %	24	18

2021196179

BROWN & WILLIAMSONKOOL ULTRA LIGHTS 85 & 100KOOL LIGHTS 85 & 100

Brown & Williamson is test marketing Kool Ultra Lights 85 and 100 cigarettes and Kool Lights 85 and 100 cigarettes in St. Louis, Missouri. These cigarettes have new package graphics and white tipping. The Kool Ultra and Kool Lights currently on the market have cork tipping. No changes were noted in the smoke deliveries between the Kool Lights cigarettes. The Kool Ultra Lights use the Actron filter and no changes were noted in the smoke deliveries of the Kool Ultra and Kool Ultra Lights cigarettes.



	<u>Kool</u>		<u>Kool</u>		<u>Kool</u>		<u>Kool</u>	
	<u>Lights 85</u>		<u>Lights 100</u>		<u>Ultra</u>		<u>Ultra</u>	
	<u>Cork</u>	<u>White</u>	<u>Cork</u>	<u>White</u>	<u>85</u>	<u>85</u>	<u>100</u>	<u>100</u>
Butt Length, mm	35	35	39	39	35	35	39	39
FTC Tar, mg/cigt.	8.3	8.2	8.6	8.9	2.9	2.6	5.4	5.4
Nicotine, mg/cigt.	0.70	0.74	0.74	0.76	0.25	0.21	0.44	0.45
Puffs/cigt.	7.2	7.4	9.2	9.1	7.6	7.6	8.8	8.8
Smoke Menthol, mg/cigt.	0.33	0.36	0.38	0.40	0.12	0.11	0.23	0.24

2021196180

THE LIGGETT GROUP**PYRAMID 85 (NF)****PYRAMID ULTRA LIGHTS 100**

The Liggett Group has introduced nationally Pyramid 85 (NF) and Pyramid Ultra Lights 100 cigarettes. The sub-generic priced cigarettes will sell for \$2.50 less per carton than generic cigarettes.

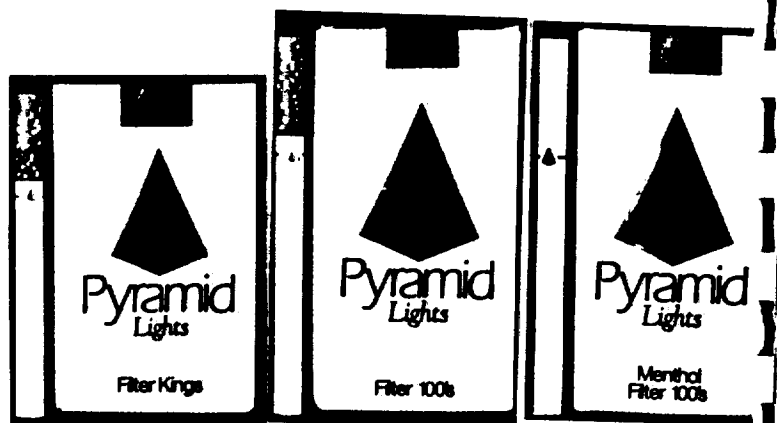


	<u>Pyramid 85 (NF)</u>	<u>Pyramid Ultra Lights 100</u>
<u>SMOKE</u>		
Butt Length, mm	23	38.
FTC Tar, mg/cigt.	21.2	5.9
Nicotine, mg/cigt.	1.42	0.56
Puffs/cigt.	8.8	9.4
Filtration Eff., %	-	55
Filler Rod TPM, mg/cigt.	28.9	26.2
CO, mg/cigt.	10.8	4.2
<u>CIGARETTE</u>		
Total RTD, mm of H ₂ O	73	74
Static Burn. Time, min.	7.7	6.1
Length, mm	84.0	98.5
Circumference, mm	24.9	24.9
<u>PAPER</u>		
Components		
Type	Cit.	Cit.
Percent	0.6	0.8
Permeability, ml/cm ² .min.	44	28
Porosity, sec.	14	18
<u>FILTER</u>		
Type	-	CA
RTD, mm of H ₂ O	-	78
Length, mm	-	29.7
Weight, g	-	0.17
Fiber denier/shape	-	3.4/Y
Tipping paper length, mm	-	35
Ventilation, %	-	63
Type/Rows	-	HL/1
<u>FILLER</u>		
Total alkaloids, % (DWB)	2.03	2.15
Total red. sugars, % (DWB)	10.2	8.4
Wt. of tob., g (12.5% O.V.)	0.955	0.733
Rod Density, g/cc	0.230	0.217
Reconstituted Tob., %	9	14
E.S., %	4	4
Expanded Tobacco, %	18	23

2021196181

THE LIGGETT GROUP**PYRAMID LIGHTS 85 & 100****PYRAMID LIGHTS 100 MENTHOL**

The Liggett Group has introduced nationally Pyramid 85 & 100 and Pyramid Lights 100 Menthol cigarettes. These sub-generic priced cigarettes will sell for \$2.50 less per carton than generic cigarettes.

**Pyramid Lights**

	<u>85</u>	<u>100</u>	<u>100 Menthol</u>
<u>SMOKE</u>			
Butt Length, mm	33	38	38
FTC Tar, mg/cigt.	14.0	13.5	14.0
Nicotine, mg/cigt.	1.07	1.04	1.07
Puffs/cigt.	7.8	8.3	8.3
Filtration Eff., %	48	50	50
Filler Rod TPM, mg/cigt.	28.8	24.5	28.1
CO, mg/cigt.	12.8	14.4	14.2
<u>CIGARETTE</u>			
Total RTD, mm of H ₂ O	111	131	125
Static Burn. Time, min.	7.9	7.0	6.7
Length, mm	83.8	98.2	98.1
Circumference, mm	24.7	24.7	24.7
<u>PAPER</u>			
Components			
Type	Cit.	Cit.	Cit.
Percent	0.5	1.9	2.0
Permeability, ml/cm ² .min.	143	98	124
Porosity, sec.	6*	7*	6*
<u>FILTER</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	65	65	69
Length, mm	24.8	29.9	29.6
Weight, g	0.14	0.17	0.17
Fiber denier/shape	4.4/Y	4.4/Y	4.4/Y
Tipping paper length, mm	30	35	35
Ventilation, %	None	None	None
<u>FILLER</u>			
Total alkaloids, % (DWB)	2.25	2.27	2.27
Total red. sugars, % (DWB)	8.2	7.8	8.4
Wt. of tob., g (12.5% O.V.)	0.629	0.733	0.724
Rod Density, g/cc	0.219	0.221	0.218
Reconstituted Tob., %	14	14	14
E.S., %	4	4	4
Expanded Tobacco, %	23	23	23
<u>MENTHOL, MG/CIGT.</u>			
Smoke	-	-	0.46
Filler	-	-	2.3
Filter	-	-	0.8

*Perforated

2021196182

BRAND MODIFICATIONSR. J. REYNOLDSWINSTON 85

Reynolds has reduced the tobacco weight of Winston 85. This resulted in a lower total RTD, puff count and ventilation level. A higher total alkaloid level was observed. No changes were noted in smoke deliveries. The cigarette appears to be less firm because of the lower tobacco weight.

	<u>Winston 85</u>	
	<u>Previous</u>	<u>Present</u>
<u>SMOKE</u>		
Butt Length, mm	28	28
FTC Tar, mg/cigt.	16.0	15.6
Nicotine, mg/cigt.	1.04	1.07
Puffs/cigt.	8.7	8.1
Filtration Eff., %	48	48
Filler Rod TPM, mg/cigt.	31.9	32.0
CO, mg/cigt.	15.9	15.8
<u>CIGARETTE</u>		
Total RTD, mm of H ₂ O	128	118
Static Burn. Time, min.	7.6	7.5
Length, mm	84.1	84.1
Circumference, mm	25.0	25.0
Firmness, mm (As Is)	2.9	3.2
Oven Volatiles, % (As Is)	12.7	13.2
<u>PAPER</u>		
Components		
Type	Cit.	Cit.
Percent	0.4	0.4
Permeability, ml/cm ² .min.	22	25
Porosity, sec.	24	22
<u>FILTER</u>		
RTD, mm of H ₂ O	80	77
Length, mm	21.1	21.1
Weight, g	0.14	0.14
Fiber denier/shape	3.6/Y	3.6/Y
Tipping paper length, mm	25	25
Ventilation, %	9	6
Type/Rows of Holes	ESP	L/1
<u>FILLER</u>		
Total alkaloids, % (DWB)	1.87	2.02
Total red. sugars, % (DWB)	7.3	6.9
Wt. of tob., g (12.5% O.V.)	0.751	0.714
Rod Density, g/cc	0.240	0.228
Reconstituted Tob., %	24	24
E.S., %	None	None
Expanded Tobacco, %	16	16

2021196183

BROWN & WILLIAMSON
VICEROY 85 AND 100

Brown & Williamson has changed the blend of Viceroy 85 and 100 cigarettes by lowering the level of expanded stems and replacing the typical dark reconstituted tobacco with the lighter colored reconstituted tobacco used in some of their other brands. This blend change resulted in a higher tobacco weight. The smoke deliveries increased resulting from the higher tobacco weight and the use of a less porous cigarette paper. Both the static burn time and the filler rod TPM increased correlating with these changes. Ventilation was added to Viceroy 85 and was increased in Viceroy 100. Brown & Williamson has made Viceroy 85 and 100 branded generic products and will sell them at a price similar to the Cambridge and Doral products.

	<u>Viceroy 85</u>		<u>Viceroy 100</u>	
	<u>Previous</u>	<u>Present</u>	<u>Previous</u>	<u>Present</u>
<u>SMOKE</u>				
Butt Length, mm	29	29	35	35
FTC Tar, mg/cigt.	13.6	16.4	15.1	16.4
Nicotine, mg/cigt.	0.90	1.17	1.06	1.03
Puffs/cigt.	7.3	8.6	8.9	10.3
Filtration Eff., %	46	47	45	46
Filler Rod TPM, mg/cigt.	27.6	33.1	26.6	35.0
CO, mg/cigt.	13.7	14.4	13.9	16.0
<u>CIGARETTE</u>				
Total RTD, mm of H ₂ O	122	127	121	127
Static Burn. Time, min.	6.7	8.3	7.1	8.2
Length, mm	83.8	83.8	98.6	98.8
Circumference, mm	25.0	25.0	24.9	24.9
<u>PAPER</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.3	0.5	0.3	0.4
Permeability, ml/cm ² .min.	45	25	44	24
Porosity, sec.	13	20	13	21
<u>FILTER</u>				
RTD, mm of H ₂ O	64	78	63	81
Length, mm	20.9	21.0	26.7	26.6
Weight, g	0.12	0.12	0.15	0.15
Fiber denier/shape	3.9/Y	3.9/Y	4.1/Y	4.1/Y
Tipping paper length, mm	26	26	37	32
Ventilation, %	None	10	8	17
Type/Rows of Holes	-	MM/3	L/2	L/1
<u>FILLER</u>				
Total alkaloids, % (DWB)	2.04	2.06	2.20	2.20
Total red. sugars, % (DWB)	8.0	7.7	8.4	7.9
Wt. of tob., g (12.5% O.V.)	0.710	0.732	0.814	0.854
Rod Density, g/cc	0.227	0.234	0.230	0.240
Reconstituted Tob., %	10	12	10	12
E.S., %	13	5	13	5
Expanded Tobacco, %	11	10	11	10

2021196184

CHANGE IN METHODOLOGY FOR PAPER PERMEABILITY

As of January 1, 1989, both Coresta permeability and Greiner porosity data will be reported on all samples analyzed by the Cigarette Testing Services Division. This table represents a comparison of several major brands. As of May 1, 1989, Coresta permeability will be reported instead of Greiner porosity. An overlapping of Coresta ranges can be expected due to differences in methods and cigarette papers.

<u>Manufacturer</u>	<u>Coresta Permeability</u> (ml/cm ² .min.)	<u>Greiner Porosity</u> (seconds)
<u>PHILIP MORRIS</u>		
Benson & Hedges 100	34	15
Benson & Hedges Lights 100	34	16
Benson & Hedges Deluxe Ultra Lights 100 (Box)	47	12
Marlboro 80 (Box)	28	20
Marlboro 85	36	16
Marlboro 100	43	13
Marlboro Lights 85	34	16
Merit 85	47	13
Merit Ultra Lights 85	47	13
Virginia Slims Lights 100 (Box)	48	12
<u>REYNOLDS</u>		
Camel 85	43	14
Camel Lights 85	28	19
Doral Lights 100	25	20
Salem 85	25	20
Salem Lights 85	39	13
Salem Slim Lights 100 (Box)	39	14
Vantage 85	41	14
Winston 80 (Box)	41	14
Winston 85	24	23
Winston 100	24	21
Winston Lights 85	39	13
<u>BROWN & WILLIAMSON</u>		
Barclay 85	26	21
Belair 85	42	13
Capri 100 (Box)	29	22
Kool 85	28	18
Kool Ultra 100	45	13
Raleigh 85	43	14
Viceroy 85	45	13
<u>AMERICAN</u>		
Carlton 100	28	19
Pall Mall 100	48	12
Tareyton 85	45	13
<u>LORILLARD</u>		
Kent 85	38	15
Kent 100	38	14
Newport Menthol 85	18	26
Newport Menthol 100	19	28
Newport Lights Menthol 85	24	21
True 85	36	16
True 100	30	18
<u>LIGGETT</u>		
Chesterfield King (NF)	44	12
L & M 85	176	6*
L & M 100	120	6*

*These cigarette papers are perforated.

2021196185

ANNUAL RECONSTITUTED TOBACCO, EXPANDED TOBACCO
AND EXPANDED STEM SURVEY

Philip Morris and competitive brands manufactured during third quarter, 1988 were examined for their reconstituted tobacco, expanded tobacco and expanded stems. The reconstituted tobacco of each manufacturer was microscopically examined to determine the composition and process by which each was made.

Lorillard no longer uses the typical thick (500 μ) reconstituted tobacco in any of their cigarette brands. The new RL sheet, first seen in May, 1987 was mixed with the thick sheet in a 50/50 ratio in all of Lorillard's brands until July, 1988. Since July, all Lorillard products have utilized the new RL sheet.

R. J. Reynolds no longer uses the light colored sheet (with TEG) found only in Winston Lights 80 (Box) and Camel Lights 80 (Box) brands. These cigarettes now contain the dark colored sheet found in all other Reynolds brands.

Brown & Williamson has reduced the level of expanded stems (13 to 5%) and replaced the typical dark reconstituted tobacco with the lighter colored reconstituted sheet. Brown & Williamson continues to use two types of reconstituted tobacco in their products, a dark sheet with softwood fibers or a lighter colored sheet without softwood fiber (first seen in some of their brands in 1986). The types of reconstituted material utilized in Brown & Williamson's brands are shown below:

<u>Dark Reconstituted Tobacco</u> <u>(with wood fibers)</u>	<u>Light Reconstituted Tobacco</u> <u>(without wood fibers)</u>
Kool Milds 80,85	Barclay 85,100
Kool 85,100	Belair 85,100
Kool Lights 85,100	Raleigh Lights 85,100
Kool Ultra 85,100	Viceroy 85,100
Raleigh 85,100	Viceroy Lights 85,100
	Capri 100 (plain and menthol)

Brown & Williamson, Liggett Group and Lorillard are companies that use softwood fibers as well as tobacco leaf and stem in their reconstituted sheet material. Philip Morris is the only manufacturer that uses a two-toned cast sheet (RCB). Triethylene glycol is no longer used in any domestic reconstituted tobacco sheet.

American Tobacco Company remains the only manufacturer using shredded expanded stems in their cigarette products. R. J. Reynolds and Lorillard are the only major tobacco manufacturers not using expanded stems in their blends.

Brown & Williamson is the only manufacturer that does not use expanded tobacco in all of their blends. The blends of Viceroy Lights 85 and 100, Raleigh Lights 85 and 100, and Capri 100 (plain and menthol) do not contain expanded tobacco. Freon® is still detected in the filler of Reynolds, Lorillard, American and Liggett products.

A complete listing of brands by manufacturer is given on pages 44 and 45, showing the levels of the various blend components.

January, 1989

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SMOKING MODIFICATIONS FOR BARCLAY-TYPE FILTER CIGARETTES

These brands were tested using both the standard holder and a modified holder. All smoke data are higher for these cigarettes when using a modified holder because this holder reduces the amount of ventilation through the cigarette. No other brands show the change in smoke deliveries when using a modified holder. The FTC determined that the present testing methodology does not accurately measure Brown & Williamson's Barclay and Kool Ultra cigarette smoke deliveries.

	<u>Barclay 80 (Box)</u>		<u>Barclay 85</u>		<u>Barclay 100</u>	
	<u>Standard</u>	<u>Modified</u>	<u>Standard</u>	<u>Modified</u>	<u>Standard</u>	<u>Modified</u>
Butt Length, mm	35	35	35	35	39	39
FTC Tar, mg/cigt.	1.8	5.3	1.8	3.2	4.1	4.9
Nicotine, mg/cigt.	0.14	0.46	0.17	0.28	0.35	0.43
Puffs/cigt.	8.8	7.6	9.8	9.6	11.5	11.6
CO, mg/cigt.	1.3	4.7	1.3	1.8	2.1	3.0

	<u>Kool Ultra 85</u>		<u>Kool Ultra 100</u>	
	<u>Standard</u>	<u>Modified</u>	<u>Standard</u>	<u>Modified</u>
Butt Length, mm	35	35	39	39
FTC Tar, mg/cigt.	2.9	5.7	5.4	7.4
Nicotine, mg/cigt.	0.25	0.44	0.44	0.63
Puffs/cigt.	7.6	7.4	8.8	8.4
CO, mg/cigt.	1.8	4.7	4.3	6.2

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BRANDED GENERICS
(Brands Ranked by FTC Tar, left to right)

	Cambridge Ultra Lts. 100	Doral Ultra Lts. 100	Doral Lts. Men. 85	Doral Lts. 85
¹ Sales	1.32	2.03	1.66	3.08
<u>Smoke</u>				
FTC Tar, mg/cigt.	4.8	5.7	9.6	9.7
Nicotine, mg/cigt.	0.41	0.51	0.75	0.73
Puffs/cigt.	9.9	10.4	6.9	6.9
Filtration Eff., %	69	67	55	54
Filler Rod TPM, mg/cigt.	29.1	32.5	27.6	28.7
CO, mg/cigt.	6.0	7.5	9.6	11.0
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	117	106	100	107
Static Burn. Time, ² min.	7.3	7.5	7.0	7.2
Length, mm	99.1	98.6	83.8	83.9
Circumference, mm	25.0	25.0	25.0	25.0
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	2.6	0.2	0.5	0.4
Porosity, sec.	12	21	20	20
Permeability, ml/cm ² .min.	49	23	26	26
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	148	138	87	86
Length, mm	31.6	30.9	26.9	26.7
Weight, g	0.21	0.21	0.16	0.16
Fiber denier/shape	2.9/Y	3.2/Y	3.1/Y	3.1/Y
Tipping Paper				
Length, mm	36.0	35.0	31.0	31.0
Color	White	White	Cork	Cork
Ventilation, %	57	60	31	24
<u>Filler</u>				
Total alkaloids, % (DWB)	2.06	2.15	2.13	2.16
Total red. sugars, % (DWB)	6.8	7.3	7.0	6.9
Reconstituted Tob., %	22	24	24	24
Expanded Stems, %	3	None	None	None
Expanded Tob., %	15	25	25	25
Wt. of Tob., g (12.5% OV)	0.813	0.698	0.583	0.601
Rod Length, mm	67.4	67.7	56.8	57.2
Rod Density, g/cc	0.243	0.208	0.206	0.212
<u>Menthol, mg/cigt.</u>				
Smoke	-	-	0.47	-
Filler	-	-	2.3	-
Filter	-	-	1.4	-

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

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BRANDED GENERICS
(Brands Ranked by FTC Tar, left to right)

<u>Doral</u> <u>Lts. 100</u>	<u>Doral Lts.</u> <u>Men. 100</u>	<u>Cambridge</u> <u>Lights</u> <u>Men. 100</u>	<u>Cambridge</u> <u>Lts. 100</u>	<u>Cambridge</u> <u>Lights</u> <u>Men. 85</u>	
4.61	3.05	1.45	2.30	0.65	¹ Sales
					<u>Smoke</u>
10.3	10.9	11.0	11.4	11.8	FTC Tar, mg/cigt.
0.86	0.90	0.87	0.89	0.93	Nicotine, mg/cigt.
9.4	9.1	10.1	10.0	7.9	Puffs/cigt.
51	50	58	60	53	Filtration Eff., %
28.7	28.0	32.5	32.0	31.2	Filler Rod TPM, mg/cigt.
9.9	10.8	12.4	13.1	11.6	CO, mg/cigt.
					<u>Cigarette</u>
97	88	131	130	112	Total RTD, mm of H ₂ O
7.1	6.8	7.8	8.0	7.9	Static Burn. Time, min.
98.9	98.8	99.5	99.4	84.0	Length, mm
24.9	25.0	25.0	25.0	24.9	Circumference, mm
					<u>Paper</u>
Cit.	Cit.	Cit.	Cit.	Cit.	Component Type
0.4	0.6	0.5	0.5	0.5	Component Percent
22	22	22	24	18	Porosity, sec.
25	25	25	22	27	Permeability, ml/cm ² .min.
					<u>Filter</u>
CA	CA	CA	CA	CA	Type
79	79	108	108	87	RTD, mm of H ₂ O
30.8	29.8	31.3	31.4	27.0	Length, mm
0.19	0.19	0.19	0.19	0.17	Weight, g
3.6/Y	3.6/Y	2.8/Y	2.8/Y	3.9/Y	Fiber denier/shape
					Tipping Paper
35.0	35.0	36.0	36.0	31.0	Length, mm
Cork	Cork	White	Cork	White	Color
40	42	27	26	21	Ventilation, %
					<u>Filler</u>
2.18	2.21	2.05	2.06	2.08	Total alkaloids, % (DWB)
7.1	7.1	6.7	7.1	6.7	Total red. sugars, % (DWB)
24	24	22	22	22	Reconstituted Tob., %
None	None	3	3	3	Expanded Stems, %
25	25	15	15	15	Expanded Tob., %
0.715	0.707	0.808	0.801	0.672	Wt. of Tob., g (12.5% OV)
68.1	69.1	68.2	68.0	57.0	Rod Length, mm
0.212	0.206	0.237	0.238	0.239	Rod Density, g/cc
					<u>Menthol, mg/cigt.</u>
-	0.59	0.60	-	0.61	Smoke
-	3.2	3.4	-	2.5	Filler
-	1.4	1.8	-	1.5	Filter

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BRANDED GENERICS
(Brands Ranked by FTC Tar, left to right)

	Cambridge Lts. 85	Doral Full Flavor 100	Doral Full Flavor 85	Cambridge Full Flavor 100	Cambridge Full Flavor 85
¹ Sales	1.60	2.40	1.67	1.15	0.95
<u>Smoke</u>					
FTC Tar, mg/cigt.	12.1	14.9	15.0	15.6	16.0
Nicotine, mg/cigt.	0.93	1.03	1.08	1.10	1.10
Puffs/cigt.	8.4	7.9	7.6	8.4	8.4
Filtration Eff., %	54	52	45	49	48
Filler Rod TPM, mg/cigt.	34.3	29.4	29.0	28.7	29.1
CO, mg/cigt.	11.9	16.6	14.4	15.4	14.8
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	113	142	114	116	118
Static Burn. Time, min.	8.5	7.3	7.7	7.6	7.8
Length, mm	84.0	98.8	83.8	99.4	84.2
Circumference, mm	25.0	24.9	25.0	25.0	24.9
<u>Paper</u>					
Component Type	Cit.	Cit.	Phos.	Cit.	Cit.
Component Percent	0.4	0.4	0.1	1.1	0.4
Porosity, sec.	22	22	22	13	16
Permeability, ml/cm ² .min.	22	25	27	42	45
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	89	80	65	65	69
Length, mm	27.0	31.0	20.9	31.5	21.0
Weight, g	0.17	0.18	0.12	0.18	0.13
Fiber denier/shape	3.8/Y	4.5/Y	4.5/Y	4.4/Y	2.8/Y
Tipping Paper					
Length, mm	31.0	36.0	25.0	36.0	25.0
Color	Cork	Cork	Cork	Cork	Cork
Ventilation, %	24	None	7	None	None
<u>Filler</u>					
Total alkaloids, % (DWB)	2.04	2.15	2.15	2.05	2.06
Total red. sugars, % (DWB)	6.9	7.0	6.9	7.4	7.2
Reconstituted Tob., %	22	24	24	22	22
Expanded Stems, %	3	None	None	3	3
Expanded Tob., %	15	25	25	15	15
Wt. of Tob., g (12.5% OV)	0.671	0.717	0.664	0.786	0.734
Rod Length, mm	57.0	67.8	62.9	67.9	63.1
Rod Density, g/cc	0.238	0.214	0.212	0.234	0.236

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

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TEST MARKET BRANDS

These branded generics are in limited distribution. The data on these brands are not included in the tables of this report.

	<u>AMERICAN</u>			<u>R. J. REYNOLDS</u>		
	Malibu 100	Malibu Men. 100	Malibu Lights 100	Magna 80 Box	Magna 85	Magna Lites 85
¹ Sales	1.46	1.46	----	0.27	0.30	0.24
<u>Smoke</u>						
Butt Length, mm	35	35	35	26	28	34
FTC Tar, mg/cigt.	10.8	11.5	9.3	12.6	12.9	9.1
Nicotine, mg/cigt.	0.95	0.94	0.81	0.85	0.83	0.65
Puffs/cigt.	10.5	10.5	11.0	6.2	6.8	6.9
Filtration Eff., %	51	53	54	45	49	63
Filler Rod TPM, mg/cigt.	26.2	27.7	25.2	27.4	24.7	30.6
CO, mg/cigt.	9.1	10.7	10.7	13.6	13.3	12.3
<u>Cigarette</u>						
Total RTD, mm of H ₂ O	132	123	131	123	123	144
Static Burn. Time, min.	7.7	7.4	7.9	6.6	6.4	7.3
Length, mm	99.5	99.7	99.6	78.2	84.0	84.2
Circumference, mm	24.5	24.4	24.2	25.0	25.0	25.1
<u>Paper</u>						
Component						
Type	Cit.	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	1.0	0.9	0.9	0.5	0.4	1.3
Porosity, sec.	14	13	13	13	21	24
Permeability, ml/cm ² .min.	42	39	37	44	24	24
<u>Filter</u>						
Type	CA	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	92	90	103	73	76	127
Length, mm	26.8	26.9	26.9	19.0	21.1	27.1
Weight, g	0.17	0.17	0.17	0.13	0.14	0.18
Fiber denier/shape	4.7/Y	3.8/Y	3.9/Y	3.4/Y	3.4/Y	2.3/Y
Tipping Paper Length, mm	32	32	32	23	25	31
Ventilation, %	32	30	37	None	7	21
Type/Rows of Holes	L/1	L/1	L/1	-	ESP	L/2
<u>Filler</u>						
Total alkaloids, % (DWB)	2.03	1.93	1.99	2.06	2.00	1.83
Total red. sugars, % (DWB)	9.7	9.0	9.8	6.0	7.0	6.9
Wt. of Tob., g (12.5% OV)	0.860	0.847	0.817	0.634	0.632	0.645
Rod Density, g/cc	0.247	0.246	0.240	0.215	0.201	0.225
Reconstituted Tob., %	17	22	22	24	24	24
E.S., %	3	None	None	None	None	None
Expanded Tob., %	16	11	11	25	25	16
<u>Menthol, mg/cigt.</u>						
Smoke	-	0.67	-	-	-	-
Filler	-	3.8	-	-	-	-
Filter	-	1.9	-	-	-	-

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January, 1989

CIGARETTE BRANDS RANKED ACCORDING TO SIZE AND SALES¹
PHILIP MORRIS DATA

1

	SALES	FTC TAR, MG/CIGT.	NICOTINE, MG/CIGT.		SALES	FTC TAR, MG/CIGT.	NICOTINE, MG/CIGT.
120 MM FILTER PLAIN				100 MM FILTER CHARCOAL			
More	2.73	16.7	1.23	PARLIAMENT LIGHTS	2.00	11.5	0.95
VA SLIMS LIGHTS (BOX)	1.74	13.5	1.06	Tareyton	1.77	13.3	0.92
SARATOGA (BOX)	0.85	14.4	1.14	Lark Lights	0.29	12.3	1.01
Carlton	0.59	5.8	0.55	Tareyton Long Lights	0.26	8.1	0.67
120 MM FILTER MENTHOL				85 MM FILTER CHARCOAL			
More Men.	2.38	17.0	1.27	Tareyton	1.95	12.9	0.90
VA SLIMS LIGHTS MEN. (BOX)	1.35	13.2	1.04	Lark Lights	0.36	11.6	0.89
Carlton Men.	0.59	6.1	0.58	B&H MULTIFILTER	0.22	11.3	0.85
SARATOGA MEN. (BOX)	0.40	14.4	1.13	Tareyton Lights	0.12	5.3	0.42
100 MM FILTER PLAIN				85 MM FILTER PLAIN			
MARLBORO LIGHTS	10.50	10.2	0.82	MARLBORO	29.87	16.7	1.17
MARLBORO	9.69	15.3	1.12	Winston	24.93	15.7	1.08
Winston	8.96	15.6	0.93	MARLBORO LIGHTS	21.40	10.9	0.81
Winston Lights	7.47	10.9	0.76	MARLBORO LIGHTS (BOX)	14.68	10.6	0.79
MARLBORO LIGHTS (BOX)	4.85	10.8	0.86	Winston Lights	11.32	9.2	0.65
BENSON & HEDGES	4.77	15.9	1.14	Vantage	6.68	9.9	0.70
Doral Lights	4.61	10.3	0.86	Camel	5.97	14.2	0.94
MERIT	4.25	9.6	0.77	MERIT	5.81	7.7	0.61
Vantage	3.54	8.7	0.62	Camel Lights	5.29	9.0	0.62
B & H DELUXE ULTRA LTS (BOX)	3.53	5.7	0.48	MERIT ULTRA LIGHTS	3.40	5.1	0.47
Carlton	2.99	3.4	0.33	Kent	3.28	11.7	0.83
B & H LIGHTS	2.95	10.2	0.85	Doral Lights	3.08	9.7	0.73
Now	2.80	2.2	0.20	Viceroy	2.30	16.4	1.16
MERIT ULTRA LIGHTS	2.62	5.9	0.54	Vantage Ultra Lights	2.18	5.4	0.42
Pall Mall	2.60	16.4	1.24	True	2.04	5.4	0.49
Doral Full Flavor	2.40	14.9	1.03	Carlton	1.94	1.6	0.15
CAMBRIDGE LIGHTS	2.30	11.4	0.89	Raleigh	1.72	14.3	0.91
Vantage Ultra Lights	2.27	5.1	0.43	Kent III	1.67	3.8	0.34
Kent	2.21	12.8	0.88	Doral Full Flavor	1.67	15.0	1.08
Winston Ultra Lights	2.06	5.0	0.41	Kent Golden Lights	1.64	7.8	0.67
Doral Ultra Lights	2.03	5.7	0.51	CAMBRIDGE LIGHTS	1.60	12.1	0.93
Kent III	1.91	5.2	0.45	MARLBORO 25'S	1.58	16.0	1.16
Camel Lights	1.66	10.7	0.74	MERIT (BOX)	1.46	7.7	0.61
True	1.59	7.8	0.67	Winston Ultra Lights	1.29	5.7	0.45
Carlton (Box)	1.53	1.1	0.11	L & M	1.22	12.9	1.02
Kent Golden Lights	1.49	8.9	0.78	Lucky Strike	1.07	11.4	0.88
CAMBRIDGE	1.32	4.8	0.41	PARLIAMENT LIGHTS	1.05	9.4	0.73
Raleigh	1.30	14.6	0.91	Now	1.03	1.5	0.15
CAMBRIDGE FULL FLAVOR	1.15	15.6	1.10	CAMBRIDGE FULL FLAVOR	0.95	16.0	1.10
Viceroy	0.80	16.4	0.95	Barclay	0.90	*	*
Barclay	0.63	*	*	MARLBORO LIGHTS 25'S	0.82	11.2	0.81
Winston Lights (Box)	0.51	9.8	0.69	Old Gold	0.75	15.6	1.17
Raleigh Lights	0.40	11.8	0.91	Raleigh Lights	0.37	11.0	0.83
L & M	0.30	12.8	1.01	Viceroy Lights	0.21	10.9	0.83
Satin	0.26	10.4	0.87				
Viceroy Lights	0.22	11.8	0.90	85 MM FILTER MENTHOL			
Ritz (Box)	0.19	8.7	0.71	Kool	16.27	15.4	1.06
100 MM FILTER MENTHOL				Newport	9.94	15.8	1.07
Salem Lights	7.57	8.7	0.67	Salem Lights	9.77	9.3	0.69
Salem	6.40	15.4	1.02	Salem	9.60	16.0	1.08
Kool	5.75	15.9	1.16	Kool Milds	4.41	11.9	0.91
BENSON & HEDGES MEN.	5.05	15.4	1.11	Doral Lights Men.	1.66	9.6	0.75
Newport	3.31	16.9	1.21	Salem Ultra Lights	1.65	5.1	0.43
Doral Lights Men.	3.05	10.9	0.90	MARLBORO MEN.	1.45	15.5	1.05
Salem Ultra Lights	2.80	5.0	0.42	Belair	1.44	10.2	0.81
B & H LIGHTS MEN.	2.55	10.4	0.85	Newport Lights	1.39	8.0	0.72
B & H DELUXE ULTRA LTS (BOX)	2.45	5.8	0.50	Vantage Men.	1.10	9.6	0.67
CAMBRIDGE LIGHTS MEN.	1.45	11.0	0.87	True Men.	0.91	5.4	0.51
Now Men.	1.40	2.9	0.26	MERIT MEN.	0.90	7.9	0.65
Belair	1.22	8.3	0.61	Kool Lights	0.79	8.3	0.70
True Men.	0.86	6.9	0.64	MERIT ULTRA LIGHTS MEN.	0.73	5.2	0.46
MERIT MEN.	0.77	9.5	0.76	CAMBRIDGE LIGHTS MEN.	0.65	11.8	0.93
Kool Lights	0.68	8.6	0.74	Carlton Men.	0.63	1.1	0.11
MERIT ULTRA LIGHTS MEN.	0.60	5.6	0.51	Kool Ultra	0.42	*	*
Kool Ultra 100's	0.44	*	*	Now Men.	0.40	1.4	0.13
Newport Lights	0.43	9.2	0.83	ALPINE	0.11	15.7	1.07
Vantage Men.	0.35	8.2	0.60	Kent Golden Lights Men.	0.08	8.0	0.72
Newport 25's	0.32	18.0	1.33				
Ritz (Box)	0.23	10.3	0.74	80 MM FILTER (BOX)			
Kent Golden Lights Men.	0.19	9.6	0.81	MARLBORO (BOX)	35.45	16.4	1.13
Satin Men.	0.14	10.3	0.85	Winston (Box)	2.65	15.5	0.96
100 MM FILTER SLIM				PARLIAMENT LIGHTS (BOX)	1.77	9.2	0.75
VIRGINIA SLIMS	2.90	14.0	1.08	Camel Lights (Box)	1.03	8.8	0.60
VA SLIMS LIGHTS (BOX)	2.89	8.4	0.68	Winston Lights (Box)	1.01	9.0	0.62
Capri (Box)	1.44	9.1	0.74	Kool Milds (Box)	0.59	11.0	0.85
VA SLIMS UL (BOX)	1.40	5.9	0.48	Kent (Box)	0.14	10.8	0.76
More Lights (Box)	0.45	10.2	0.81	85 MM NONFILTER			
100 MM FILTER SLIM MENTHOL				Pall Mall	11.87	22.0	1.48
VA SLIMS LIGHTS MEN. (BOX)	3.19	8.3	0.57	Chesterfield King	1.11	20.2	1.37
Salem Slim Lights (Box)	2.54	9.0	0.69	P.M. COMMANDER	0.36	23.1	1.53
VIRGINIA SLIMS MEN.	2.50	14.8	1.11				
Capri Men (Box)	1.30	9.4	0.75	70 MM NONFILTER			
VA SLIMS UL MEN (BOX)	1.20	5.2	0.44	Camel	7.95	19.8	1.33
More Lights Men. (Box)	0.34	9.6	0.73	Lucky Strike	2.68	23.1	1.49
				PHILIP MORRIS	0.06	20.4	1.35

*See page XIX.

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

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FEDERAL TRADE COMMISSION DATA PUBLISHED DECEMBER, 1988
ALPHABETICAL LISTING OF BRANDS WITH TAR AND NICOTINE CONTENT

Tar and Nicotine Content of Two Hundred Seven Two (272) Varieties of Domestic Cigarettes

BRAND	TYPE*	TAR, MG/CIGT.	NICOTINE, MG/CIGT.	BRAND	TYPE*	TAR, MG/CIGT.	NICOTINE, MG/CIGT.
ALPINE	F,M,SP, 85 mm	17	1.1	Herbert Tareyton	NF,SP, 85 mm	25	1.6
Belair	F,M,SP, 85 mm	10	0.8	HI-LITE	F,HP, 100 mm	14	1.0
Belair	F,M,SP, 100 mm	9	0.7	Kent Golden Lights	F,HP, 85 mm	10	0.8
BENSON & HEDGES	F,HP, 85 mm	15	1.2	Kent Golden Lights	F,SP, 85 mm	9	0.8
BENSON & HEDGES 100's	F,HP, 100 mm	17	1.2	Kent Golden Lights	F,M,SP, 85 mm	8	0.7
BENSON & HEDGES 100's	F,M,HP, 100 mm	16	1.1	Kent Golden Lights	F,HP, 100 mm	10	0.9
BENSON & HEDGES 100's	F,SP, 100 mm	17	1.2	Kent Golden Lights	F,SP, 100 mm	10	0.9
BENSON & HEDGES 100's	F,M,SP, 100 mm	16	1.2	Kent Golden Lights	F,M,SP, 100 mm	9	0.9
BENSON & HEDGES LIGHTS	F,SP, 100 mm	10	0.8	Kent	F,HP, 85 mm	11	0.9
BENSON & HEDGES LIGHTS	F,M,SP, 100 mm	11	0.8	Kent	F,SP, 85 mm	12	0.9
B & H DELUXE ULTRA LTS.	F,HP, 100 mm	6	0.5	Kent	F,SP, 100 mm	13	1.0
B & H DELUXE ULTRA LTS.	F,M,HP, 100 mm	5	0.5	Kent	F,M,SP, 100 mm	14	1.0
B & H MULTIFILTER	F,SP, 85 mm	12	0.9	Kent III	F,SP, 85 mm	4	0.4
Bright	F,M,SP, 100 mm	7	0.5	Kent III	F,HP, 100 mm	5	0.5
CAMBRIDGE FULL FLAVOR	F,SP, 85 mm	17	1.1	Kent III	F,SP, 100 mm	5	0.5
CAMBRIDGE FULL FLAVOR	F,SP, 100 mm	17	1.2	Kim 25's	F,HP, 100 mm	11	0.9
CAMBRIDGE LIGHTS	F,SP, 85 mm	12	0.8	Kim 25's	F,M,HP, 100 mm	9	0.9
CAMBRIDGE LIGHTS	F,M,SP, 85 mm	12	0.8	Kool	Reg., NF,SP	21	1.3
CAMBRIDGE LIGHTS	F,SP, 100 mm	12	0.9	Kool	F,M,HP, 85 mm	16	1.1
CAMBRIDGE LIGHTS	F,M,SP, 100 mm	12	0.9	Kool	F,M,SP, 85 mm	17	1.2
Camel	Reg., NF,SP, 70 mm	22	1.4	Kool Super Longs	F,M,SP, 100 mm	16	1.2
Camel	F,HP, 80 mm	16	1.0	Kool Lights	F,M,SP, 85 mm	8	0.7
Camel	F,SP, 85 mm	15	1.0	Kool Lights	F,M,SP, 100 mm	9	0.7
Camel	F,SP, 100 mm	17	1.1	Kool Milds	F,M,HP, 85 mm	11	0.9
Camel Lights	F,HP, 85 mm	10	0.6	Kool Milds	F,M,SP, 85 mm	12	0.9
Camel Lights	F,SP, 85 mm	9	0.6	Kool Milds	F,M,SP, 100 mm	12	0.9
Camel Lights	F,SP, 100 mm	11	0.8	L & M	F,HP, 85 mm	14	1.1
Capri	F,HP, 100 mm	9	0.8	L & M	F,SP, 85 mm	13	1.0
Capri	F,M,HP, 100 mm	9	0.7	L & M Super	F,SP, 100 mm	14	1.1
Carlton	F,HP, 85 mm	**	**	L & M Long Lights	F,SP, 100 mm	8	0.8
Carlton	F,SP, 85 mm	1	0.1	L & M Lights 30's	F,SP, 100 mm	13	1.1
Carlton	F,M,SP, 85 mm	1	0.1	Lark	F,SP, 85 mm	13	1.0
Carlton	F,HP, 100 mm	1	0.1	Lark	F,SP, 100 mm	15	1.2
Carlton	F,M,HP, 100 mm	1	0.1	Lark Lights	F,SP, 85 mm	13	1.0
Carlton	F,SP, 100 mm	3	0.3	Lark Lights	F,SP, 100 mm	14	1.1
Carlton	F,M,SP, 100 mm	4	0.4	Lucky Strike	Reg., NF,SP	24	1.5
Carlton	F,SP, 120 mm	6	0.6	Lucky Strike	F,HP, 85 mm	12	0.9
Carlton	F,M,SP, 120 mm	6	0.6	Lucky Strike	F,SP, 85 mm	12	0.9
Century 25's	F,SP, 85 mm	15	0.9	Lucky Strike Filters	F,SP, 100 mm	12	1.0
Century 25's	F,SP, 100 mm	17	1.1	Lucky Strike	F,M,SP, 100 mm	12	0.9
Century Lights 25's	F,SP, 85 mm	10	0.7	Lucky Strike Lights	F,SP, 85 mm	8	0.6
Century Lights 25's	F,SP, 100 mm	12	0.8	Lucky Strike Lights	F,SP, 100 mm	9	0.8
Century Lights 25's	F,M,SP, 100 mm	12	0.8	Magna	F,HP, 85 mm	14	0.9
Chesterfield	Reg., NF,SP, 70 mm	20	1.3	Magna	F,SP, 85 mm	14	0.9
Chesterfield	NF,SP, 85 mm	25	1.7	Magna Lites	F,SP, 85 mm	9	0.6
Craven "A"	F,HP, 85 mm	16	1.1	Malibu	F,SP, 100 mm	12	1.0
Craven "A"	K,F,HP, 85 mm	16	1.1	Malibu	F,M,SP, 100 mm	11	0.9
Doral Full Flavor	F,HP, 85 mm	15	0.8	Malibu Lights	F,SP, 100 mm	9	0.7
Doral Full Flavor	F,SP, 85 mm	18	0.9	MARLBORO	F,HP, 85 mm	16	1.1
Doral Full Flavor	F,SP, 100 mm	14	0.8	MARLBORO	F,SP, 85 mm	17	1.1
Doral Filter Lights	F,SP, 85 mm	12	0.7	MARLBORO	F,M,SP, 85 mm	17	1.1
Doral Filter Lights	F,M,SP, 85 mm	12	0.6	MARLBORO	F,HP, 100 mm	17	1.2
Doral Filter Lights	F,SP, 100 mm	12	0.7	MARLBORO	F,SP, 100 mm	17	1.2
Doral Filter Lights	F,M,SP, 100 mm	12	0.7	MARLBORO 25's	F,SP, 85 mm	17	1.1
Doral Ultra Lights	F,SP, 100 mm	7	0.5	MARLBORO LIGHTS	F,HP, 85 mm	11	0.8
Dunhill International	F,HP, 100 mm	15	1.4	MARLBORO LIGHTS	F,SP, 85 mm	11	0.8
Dunhill	F,M,HP, 100 mm	15	1.2	MARLBORO LIGHTS	F,M,SP, 85 mm	11	0.8
Dunhill Inter. Superior	F,HP, 100 mm	9	0.8	MARLBORO LIGHTS	F,HP, 100 mm	11	0.8
Eli Cutter	F,SP, 85 mm	16	1.1	MARLBORO LIGHTS	F,SP, 100 mm	11	0.8
Eli Cutter Lights	F,SP, 85 mm	12	0.9	MARLBORO LIGHTS	F,M,SP, 100 mm	10	0.8
English Ovals	Reg., NF,HP, 70 mm	24	1.8	MARLBORO LIGHTS 25's	F,SP, 85 mm	11	0.8
Eve Slim Lights	F,HP, 100 mm	13	1.0	MARLBORO	F,Red HP, 100 mm	17	1.2
Eve Slim Lights	F,M,HP, 100 mm	13	1.0	MARLBORO	F,Red SP, 100 mm	17	1.2
Eve Lights	F,HP, 120 mm	12	1.1	Max	F,SP, 120 mm	18	1.4
Eve Lights	F,M,HP, 120 mm	13	1.1	Max	F,M,SP, 120 mm	18	1.5
Falcon Lights	F,SP, 85 mm	11	0.8	MERIT	F,HP, 85 mm	8	0.6
Falcon Lights	F,M,SP, 85 mm	10	0.8	MERIT	F,SP, 85 mm	8	0.6
Falcon Lights	F,SP, 100 mm	13	0.9	MERIT	F,M,SP, 85 mm	8	0.6
Falcon Lights	F,M,SP, 100 mm	9	0.7	MERIT	F,SP, 100 mm	10	0.8
Fiesta	F,SP, 85 mm	16	0.7				

*F = Filter; NF = nonfilter; M = Menthol; HP = hard pack; SP = soft pack; mm = millimeter

**Indicates "tar" below 0.5 mg; nicotine below 0.05 mg per cigarette.

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FEDERAL TRADE COMMISSION DATA PUBLISHED DECEMBER, 1988
ALPHABETICAL LISTING OF BRANDS WITH TAR AND NICOTINE CONTENT (cont.)

BRAND	TYPE*	TAR, MG/CIGT.	NICOTINE, MG/CIGT.	BRAND	TYPE*	TAR, MG/CIGT.	NICOTINE, MG/CIGT.
MERIT	F,M,SP, 100 mm	10	0.8	Richland Lights 25's	F,SP, 85 mm	11	0.8
MERIT ULTRA LIGHTS	F,SP, 85 mm	5	0.5	Richland Lights 25's	F,SP, 100 mm	12	0.9
MERIT ULTRA LIGHTS	F,M,SP, 85 mm	5	0.4	Ritz	F,HP, 100 mm	12	0.8
MERIT ULTRA LIGHTS	F,SP, 100 mm	6	0.5	Ritz	F,M,HP, 100 mm	11	0.8
MERIT ULTRA LIGHTS	F,M,SP, 100 mm	5	0.5	Rothmans	F,HP, 85 mm	19	1.3
More	F,SP, 120 mm	17	1.2	Rothmans Spc Mild	F,HP, 85 mm	14	1.0
More	F,M,SP, 120 mm	17	1.3	St. Moritz	F,SP, 100 mm	15	1.1
More Lights	F,HP, 100 mm	9	0.7	St. Moritz	F,M,SP, 100 mm	15	1.0
More Lights	F,M,HP, 100 mm	9	0.7	Salem	F,M,SP, 85 mm	16	1.0
More Lights	F,SP, 120 mm	12	0.9	Salem	F,M,SP, 100 mm	17	1.1
More Lights	F,M,SP, 120 mm	12	0.9	Salem Lights	F,M,SP, 85 mm	10	0.7
Newport	F,M,HP, 85 mm	17	1.3	Salem Lights	F,M,HP, 100 mm	11	0.8
Newport	F,M,SP, 85 mm	17	1.3	Salem Lights	F,M,SP, 100 mm	9	0.7
Newport	F,M,HP, 100 mm	19	1.5	Salem Slim Lights	F,M,HP, 100 mm	9	0.7
Newport	F,M,SP, 100 mm	19	1.5	Salem Ultra Lights	F,M,SP, 85 mm	5	0.4
Newport 25's	F,M,SP, 85 mm	17	1.3	Salem Ultra Lights	F,M,SP, 100 mm	5	0.4
Newport 25's	F,M,SP, 100 mm	20	1.6	SARATOGA	F,HP, 120 mm	14	1.0
Newport Lights	F,M,HP, 85 mm	9	0.8	SARATOGA	F,M,HP, 120 mm	15	1.1
Newport Lights	F,M,SP, 85 mm	9	0.8	Satin	F,SP, 100 mm	11	1.0
Newport Lights	F,M,HP, 100 mm	10	1.0	Satin	F,M,SP, 100 mm	11	1.0
Newport Lights	F,M,SP, 100 mm	9	0.9	Silva Thins	F,HP, 100 mm	10	0.9
Now	F,HP, 85 mm	**	**	Silva Thins	F,M,HP, 100 mm	11	1.0
Now	F,SP, 85 mm	1	0.1	Silva Thins	F,SP, 100 mm	12	0.9
Now	F,M,SP, 85 mm	1	0.1	Silva Thins	F,M,SP, 100 mm	12	1.0
Now	F,SP, 100 mm	2	0.2	Spring	F,M,SP, 100 mm	19	1.6
Now	F,M,SP, 100 mm	3	0.3	Tall	F,SP, 120 mm	20	1.6
Old Gold Straights	NF,SP, 85 mm	27	1.9	Tall	F,M,SP, 120 mm	18	1.5
Old Gold Filters	F,SP, 85 mm	17	1.3	Tareyton	F,SP, 85 mm	14	1.0
Old Gold Filters	F,SP, 100 mm	20	1.5	Tareyton	F,SP, 100 mm	14	1.0
Old Gold Lights	F,SP, 85 mm	10	0.9	Tareyton Lights	F,SP, 85 mm	5	0.4
Old Gold Lights	F,SP, 100 mm	13	1.0	Tareyton Long Lts.	F,SP, 100 mm	9	0.7
Pall Mall	NF,SP, 85 mm	24	1.5	Triumph	F,SP, 85 mm	4	0.4
Pall Mall	NF,SP, 85 mm	24	1.5	Triumph	F,M,SP, 85 mm	4	0.4
Pall Mall	F,SP, 100 mm	17	1.2	Triumph	F,SP, 100 mm	5	0.5
Pall Mall Unfiltered Lts.	NF,SP, 85 mm	16	1.1	Triumph	F,M,SP, 100 mm	6	0.6
Pall Mall Light	F,SP, 100 mm	10	0.8	True	F,SP, 85 mm	5	0.5
Pall Mall Light Low Tar	F,M,SP, 100 mm	13	1.1	True	F,M,SP, 85 mm	5	0.5
Pall Mall Red	F,SP, 85 mm	14	1.0	True	F,SP, 100 mm	7	0.7
Pall Mall Red	F,SP, 100 mm	14	1.0	True	F,M,SP, 100 mm	7	0.7
PARLIAMENT LIGHTS	F,HP, 85 mm	9	0.7	Vantage	F,SP, 85 mm	11	0.7
PARLIAMENT LIGHTS	F,SP, 85 mm	9	0.7	Vantage	F,M,SP, 85 mm	10	0.7
PARLIAMENT LIGHTS	F,SP, 100 mm	12	1.0	Vantage	F,SP, 100 mm	9	0.6
PHILIP MORRIS	NF,SP, 70 mm	23	1.3	Vantage	F,M,SP, 100 mm	8	0.6
P.M. COMMANDER	NF,SP, 85 mm	27	1.6	Vantage Ultra Lts.	F,SP, 85 mm	5	0.4
P.M. BLUES	F,M,SP, 85 mm	17	1.2	Vantage Ultra Lts.	F,SP, 100 mm	6	0.5
P.M. BLUES	F,M,SP, 100 mm	15	1.2	Viceroy	F,SP, 85 mm	15	1.0
P.M. INTERNATIONAL	F,HP, 100 mm	18	1.2	Viceroy Super Long	F,SP, 100 mm	16	1.1
P.M. INTERNATIONAL	F,M,HP, 100 mm	17	1.1	Viceroy Lights	F,SP, 85 mm	11	0.9
PLAYERS	NF,HP, 70 mm	25	1.7	Viceroy Lights	F,SP, 100 mm	12	0.9
PLAYERS	F,HP, 85 mm	12	0.8	VIRGINIA SLIMS	F,SP, 100 mm	15	1.1
PLAYERS	F,M,HP, 85 mm	12	0.8	VIRGINIA SLIMS	F,M,SP, 100 mm	15	1.1
PLAYERS	F,HP, 100 mm	14	1.0	VIRGINIA SLIMS LTS.	F,HP, 100 mm	9	0.7
PLAYERS	F,M,HP, 100 mm	14	1.0	VIRGINIA SLIMS LTS.	F,M,HP, 100 mm	9	0.7
PLAYERS LIGHTS 25'S	F,SP, 85 mm	10	0.7	VIRGINIA SLIMS LTS.	F,HP, 120 mm	14	1.0
PLAYERS LIGHTS 25'S	F,M,SP, 85 mm	10	0.7	VIRGINIA SLIMS LTS.	F,M,HP, 120 mm	14	1.0
PLAYERS LIGHTS 25'S	F,SP, 100 mm	12	0.8	VA. SLIMS ULTRA LTS.	F,HP, 100 mm	6	0.5
PLAYERS LIGHTS 25'S	F,M,SP, 100 mm	11	0.8	VA. SLIMS ULTRA LTS.	F,M,HP, 100 mm	6	0.5
Raleigh	NF,SP, 85 mm	24	1.4	Winston	F,HP, 85 mm	16	1.0
Raleigh	F,SP, 85 mm	15	1.0	Winston	F,SP, 85 mm	17	1.1
Raleigh	F,SP, 100 mm	15	1.0	Winston	F,SP, 100 mm	17	1.1
Raleigh Lights	F,SP, 85 mm	12	0.9	Winston Lights	F,HP, 85 mm	10	0.6
Raleigh Lights	F,SP, 100 mm	11	0.9	Winston Lights	F,SP, 85 mm	11	0.8
Richland 25's	F,SP, 85 mm	17	1.2	Winston Lights	F,HP, 100 mm	10	0.7
Richland 25's	F,M,SP, 85 mm	16	1.1	Winston Lights	F,SP, 100 mm	11	0.8
Richland 25's	F,SP, 100 mm	18	1.3	Winston Ultra Lts.	F,SP, 85 mm	5	0.4
Richland 25's	F,M,SP, 100 mm	16	1.2	Winston Ultra Lts.	F,SP, 100 mm	5	0.4

TAR
RANKING

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PHILIP MORRIS DATA

BRANDS RANKED ACCORDING TO FTC TAR

BRAND	SIZE	FTC TAR, MG/CIGT.	NICOTINE, MG/CIGT.	BRAND	SIZE	FTC TAR, MG/CIGT.	NICOTINE, MG/CIGT.
1. Now (Box)	LF	0.0	0.00	58. Koal Lights	100M	8.6	0.74
2. Carlton Men. (Box)	100M	1.0	0.09	59. Vantage	100	8.7	0.62
3. Carlton Men.	KFM	1.1	0.11	60. Salem Lights	100M	8.7	0.67
4. Carlton (Box)	100	1.1	0.11	61. Ritz (Box)	100	8.7	0.71
5. Now Men.	KFM	1.4	0.13	62. Camel Lights (Box)	LF	8.8	0.60
6. Now	KF	1.5	0.15	63. Century Lights 25's	KF	8.9	0.65
7. Carlton	KF	1.6	0.15	64. PLAYERS LIGHTS MEN. 25's	KF	8.9	0.68
8. Now	100	2.2	0.20	65. Kent Golden Lights	100	8.9	0.78
9. Now Men.	100M	2.9	0.26	66. Camel Lights	KF	9.0	0.62
10. Carlton	100	3.4	0.33	67. Winston Lights (Box)	LF	9.0	0.62
11. Kent III	KF	3.8	0.34	68. Salem Slim Lights (Box)	100M	9.0	0.69
12. Triumph	KF	3.8	0.35	69. Capri 100	100	9.1	0.74
13. Triumph Men.	KFM	3.9	0.35	70. Winston Lights	KF	9.2	0.65
14. CAMBRIDGE	100	4.8	0.41	71. PARLIAMENT LIGHTS (BOX)	LF	9.2	0.75
15. Winston Ultra Lights	100	5.0	0.41	72. Newport Lights	100M	9.2	0.83
16. Carlton Men.	100M	5.0	0.42	73. Newport Lights (Box)	100M	9.2	0.87
17. Salem Ultra Lights	100M	5.0	0.42	74. Salem Lights	KFM	9.3	0.69
18. Salem Ultra Lights	KFM	5.1	0.43	75. Lucky Strike Lights	100	9.3	0.80
19. Vantage Ultra Lights	100	5.1	0.43	76. PARLIAMENT LIGHTS	KF	9.4	0.73
20. MERIT ULTRA LIGHTS	KF	5.1	0.47	77. Capri 100 Menthol	100m	9.4	0.75
21. VIRGINIA SLIMS UL MEN	100M	5.2	0.44	78. MERIT MEN.	100M	9.5	0.76
22. Kent III	100	5.2	0.45	79. MARLBORO LIGHTS MEN. (BOX)	KFM	9.5	0.76
23. MERIT ULTRA LIGHTS MEN.	KFM	5.2	0.46	80. Kent Golden Lights (Box)	100	9.5	0.91
24. Kent III (Box)	100	5.2	0.48	81. Vantage Men.	KFM	9.6	0.67
25. Tareyton Lights	KFC	5.3	0.42	82. More Lights Men. (Box)	100M	9.6	0.73
26. Vantage Ultra Lights	KF	5.4	0.42	83. Doral Lights Men.	KFM	9.6	0.75
27. True	KF	5.4	0.49	84. MERIT	100	9.6	0.77
28. True Men.	KFM	5.4	0.51	85. Kent Golden Lights Men.	100M	9.6	0.81
29. MERIT ULTRA LIGHTS MEN.	100M	5.6	0.51	86. Doral Lights	KF	9.7	0.73
30. Winston Ultra Lights	KF	5.7	0.45	87. Winston Lights 100 (Box)	100	9.8	0.69
31. B&H DELUXE U.L. (BOX)	100	5.7	0.48	88. Pall Mall Light	100	9.8	0.82
32. Triumph	100	5.7	0.49	89. Vantage	KF	9.9	0.70
33. Doral Ultra Lights	100	5.7	0.51	90. B & H LIGHTS 100 (BOX)	100	9.9	0.79
34. Triumph Men.	100M	5.7	0.52	91. B & H LIGHTS 100 MEN (BOX)	100M	10.2	0.74
35. B&H DELUXE U.L. MEN. (BOX)	100M	5.8	0.50	92. Belair	KFM	10.2	0.81
36. Carlton	120	5.8	0.55	93. More Lights (Box)	100	10.2	0.81
37. VIRGINIA SLIMS ULTRA LTS	100	5.9	0.48	94. MARLBORO LIGHTS	100	10.2	0.82
38. MERIT ULTRA LIGHTS	100	5.9	0.54	95. B&H LIGHTS	100	10.2	0.85
39. Carlton Men.	120M	6.1	0.58	96. Ritz Men.	100M	10.3	0.74
40. True Men.	100M	6.9	0.64	97. Satin Men.	100M	10.3	0.85
41. MERIT	KF	7.7	0.61	98. Doral Lights	100	10.3	0.86
42. MERIT (BOX)	KF	7.7	0.61	99. PLAYERS LIGHTS 25's	KF	10.4	0.81
43. True	100	7.8	0.67	100. B&H LIGHTS MEN.	100M	10.4	0.85
44. Kent Golden Lights	KF	7.8	0.67	101. Satin	100	10.4	0.87
45. MERIT MEN.	KFM	7.9	0.65	102. MARLBORO LIGHTS (BOX)	KF	10.6	0.79
46. Lucky Strike Lights	KF	7.9	0.66	103. Camel Lights	100	10.7	0.74
47. Kent Golden Lights (Box)	LF	8.0	0.67	104. Kent (Box)	LF	10.8	0.76
48. Newport Lights	KFM	8.0	0.72	105. MARLBORO LIGHTS (BOX)	100	10.8	0.86
49. Kent Golden Lights Men.	KFM	8.0	0.72	106. Silva Thins	100	10.8	0.87
50. Tareyton Long Lights	100C	8.1	0.67	107. Lucky Strike	100	10.8	0.90
51. Newport Lights (Box)	LFM	8.1	0.75	108. Winston Lights	100	10.9	0.76
52. Vantage Men.	100	8.2	0.60	109. Century Lights 25's	100	10.9	0.80
53. Belair	100M	8.3	0.61	110. MARLBORO LIGHTS	KF	10.9	0.81
54. VA SLIMS LIGHTS MEN. (BOX)	100M	8.3	0.67	111. Viceroy Lights	KF	10.9	0.83
55. Koal Lights	KFM	8.3	0.70	112. Doral Lights Men.	100M	10.9	0.90
56. Old Gold Lights	KF	8.3	0.75	113. Raleigh Lights	KF	11.0	0.83
57. VA SLIMS LIGHTS (BOX)	100	8.4	0.68	114. Koal Milds (Box)	LFM	11.0	0.85

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PHILIP MORRIS DATA

BRANDS RANKED ACCORDING TO FTC TAR

BRAND	SIZE	FTC TAR, MG/CIGT.	NICOTINE, MG/CIGT.	BRAND	SIZE	FTC TAR, MG/CIGT.	NICOTINE, MG/CIGT.
115. Richland Lights 25's	KF	11.0	0.86	172. Doral Full Flavor	KF	15.0	1.08
116. <u>CAMBRIDGE LIGHTS MEN.</u>	100M	11.0	0.87	173. Richland 25's	KF	15.2	1.10
117. Lucky Strike Men.	100M	11.0	0.93	174. <u>MARLBORO</u>	100	15.3	1.12
118. Kool Milds	100M	11.1	0.91	175. Camel (Box)	LF	15.4	1.00
119. <u>MARLBORO LIGHTS 25'S</u>	KF	11.2	0.81	176. Salem	100M	15.4	1.02
120. <u>B&H MULTIFILTER</u>	KFC	11.3	0.85	177. Kool	KFM	15.4	1.06
121. <u>PLAYERS MEN. (BOX)</u>	KFM	11.4	0.84	178. <u>BENSON & HEDGES MEN.</u>	100M	15.4	1.11
122. <u>PLAYERS LIGHTS MEN. 25'S</u>	100M	11.4	0.86	179. Winston (Box)	LF	15.5	0.96
123. Lucky Strike	KF	11.4	0.88	180. <u>MARLBORO MEN.</u>	KFM	15.5	1.05
124. <u>CAMBRIDGE LIGHTS</u>	100	11.4	0.89	181. <u>BENSON & HEDGES MEN. (BOX)</u>	100M	15.5	1.13
125. Silva Thins Men.	100M	11.4	0.97	182. Winston	100	15.6	0.93
126. <u>PARLIAMENT LIGHTS</u>	100C	11.5	0.95	183. <u>CAMBRIDGE FULL FLAVOR</u>	100	15.6	1.10
127. Lark Lights	KFC	11.6	0.89	184. Old Gold	KF	15.6	1.17
128. <u>PLAYERS (BOX)</u>	KF	11.6	0.90	185. <u>ALPINE</u>	KFM	15.7	1.07
129. Kent	KF	11.7	0.83	186. Winston	KF	15.7	1.08
130. <u>PLAYERS LIGHTS 25'S</u>	100	11.7	0.91	187. <u>BENSON & HEDGES (BOX)</u>	100	15.7	1.17
131. Eve Slim Lights Men. (Box)	100M	11.7	0.95	188. Newport	KFM	15.8	1.07
132. Viceroy Lights	100	11.8	0.90	189. <u>P.M. INTL (BOX)</u>	100	15.8	1.10
133. Raleigh Lights	100	11.8	0.91	190. <u>BENSON & HEDGES</u>	100	15.9	1.14
134. <u>CAMBRIDGE LIGHTS MEN.</u>	KFM	11.8	0.93	191. Kool	100M	15.9	1.16
135. Eve Slim Lights (Box)	100	11.8	0.98	192. Salem	KFM	16.0	1.08
136. Kool Milds	KFM	11.9	0.91	193. <u>CAMBRIDGE FULL FLAVOR</u>	KF	16.0	1.10
137. Richland Lights 25's	100	12.1	0.91	194. <u>MARLBORO 25'S</u>	KF	16.0	1.16
138. <u>CAMBRIDGE LIGHTS</u>	KF	12.1	0.93	195. Newport 25's	KFM	16.1	1.19
139. Lark Lights	100C	12.3	1.01	196. Max	120	16.1	1.31
140. Eve Lights (Box)	120	12.5	1.11	197. <u>MARLBORO (BOX)</u>	100	16.2	1.16
141. Lark	KFC	12.7	1.11	198. <u>P.M. INTL MEN. (BOX)</u>	100M	16.3	1.11
142. Kent	100	12.8	0.88	199. Max Men.	120M	16.3	1.30
143. L&M	100	12.8	1.01	200. Viceroy	100	16.4	0.95
144. Tareyton	KFC	12.9	0.90	201. Century 25's	100	16.4	1.08
145. Kent Men.	100M	12.9	0.99	202. <u>MARLBORO (BOX)</u>	LF	16.4	1.13
146. L&M	KF	12.9	1.02	203. Viceroy	KF	16.4	1.16
147. <u>HI-LITE (BOX)</u>	100	12.9	1.07	204. Pall Mall	100	16.4	1.24
148. Pall Mall	KF	13.0	0.99	205. Winston Intl (Box)	93	16.6	1.20
149. Eve Lights Men. (Box)	120M	13.0	1.12	206. <u>MARLBORO</u>	KF	16.7	1.17
150. <u>VA SLIMS LIGHTS MEN. (BOX)</u>	120M	13.2	1.04	207. More	120	16.7	1.23
151. Tareyton	100C	13.3	0.92	208. Newport	100M	16.9	1.21
152. <u>PLAYERS MEN. (BOX)</u>	100M	13.4	0.98	209. More Men.	120M	17.0	1.27
153. <u>VA SLIMS LIGHTS (BOX)</u>	120	13.5	1.06	210. Spring	100M	17.6	1.41
154. St. Moritz	100	13.5	1.07	211. Chesterfield	RNF	17.9	1.21
155. L&M (Box)	LF	13.5	1.11	212. Newport 25's	100M	18.0	1.33
156. <u>PLAYERS (BOX)</u>	100	13.7	1.03	213. Tall Men.	120M	18.1	1.55
157. St. Moritz Men.	100M	13.9	0.98	214. Old Gold	100	18.2	1.46
158. Lark	100C	13.9	1.18	215. Tall	120	19.3	1.60
159. <u>VIRGINIA SLIMS</u>	100	14.0	1.08	216. Kool	RNFM	19.8	1.27
160. Camel	KF	14.2	0.94	217. Camel	RNF	19.8	1.33
161. Raleigh	KF	14.3	0.91	218. Chesterfield King	KNF	20.2	1.37
162. Century 25's	KF	14.3	0.93	219. <u>PHILIP MORRIS</u>	RNF	20.4	1.35
163. <u>SARATOGA MEN. (BOX)</u>	120M	14.4	1.13	220. Raleigh	KNF	21.1	1.26
164. <u>SARATOGA (BOX)</u>	120	14.4	1.14	221. Pall Mall	KNF	22.0	1.48
165. Kool (Box)	LFM	14.5	0.99	222. H. Tareyton	KNF	22.2	1.42
166. Raleigh	100	14.6	0.91	223. <u>ENGLISH OVALS (BOX)</u>	KNF	22.4	1.74
167. Richland Men. 25's	KFM	14.8	1.00	224. <u>PLAYERS (BOX)</u>	RNF	23.0	1.61
168. <u>VIRGINIA SLIMS MEN.</u>	100M	14.8	1.11	225. Lucky Strike	RNF	23.1	1.49
169. <u>BENSON & HEDGES (BOX)</u>	KF	14.8	1.26	226. <u>P.M. COMMANDER</u>	KNF	23.1	1.53
170. Doral Full Flavor	100	14.9	1.03	227. Old Gold	KNF	23.4	1.66
171. Newport (Box)	LFM	14.9	1.12				

85mm
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2021196196

ULTRA LOW TAR 85 MM FILTER CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Now</u>	<u>Carlton</u>	<u>Kent III</u>	<u>Merit Ultra Lights</u>
¹ Sales	1.03	1.94	1.67	3.40
<u>Smoke</u>				
FTC Tar, mg/cigt.	1.5	1.6	3.8	5.1
Nicotine, mg/cigt.	0.15	0.15	0.34	0.47
Puffs/cigt.	6.3	6.7	6.7	7.2
Filtration Eff., %	76	74	64	63
Filler Rod TPM, mg/cigt.	23.3	23.9	27.3	27.8
CO, mg/cigt.	2.3	1.9	4.3	6.3
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	110	116	110	118
Static Burn. Time, min.	5.3	5.5	6.0	6.8
Length, mm	83.8	83.0	84.0	83.9
Circumference, mm	25.0	25.0	24.9	24.9
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.4	0.8	1.9	1.2
Porosity, sec.	14	13	16	15
Permeability, ml/cm ² .min.	41	47	33	48
<u>Filter</u>				
Type	CA	CA	-	CA
Inner	-	-	CA	-
Outer	-	-	CA	-
RTD, mm of H ₂ O	163	153	121	133
Length, mm	27.0	25.1	24.9	27.0
Weight, g	0.19	0.18	0.15	0.18
Fiber denier/shape	2.1/Y	2.0/Y	-	3.0/Y
Inner	-	-	1.8/Y	-
Outer	-	-	2.9/Y	-
Tipping Paper				
Length, mm	31.0	30.0	32.0	32.0
Color	White	White	White	Cork
Ventilation, %	75	73	59	48
<u>Filler</u>				
Total alkaloids, % (DWB)	2.36	2.31	2.38	2.26
Total red. sugars, % (DWB)	5.2	5.9	6.1	5.8
Reconstituted Tob., %	15	18	15	22
Expanded Stems, %	None	None	None	None
Expanded Tob., %	52	46	25	20
Wt. of Tob., g (12.5% OV)	0.472	0.531	0.587	0.628
Rod Length, mm	56.8	57.8	59.1	57.0
Rod Density, g/cc	0.167	0.185	0.202	0.224

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196197

ULTRA LOW TAR 85 MM FILTER CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>Vantage</u> <u>Ultra Lights</u>	<u>True</u>	<u>Winston</u> <u>Ultra Lights</u>	<u>Barclay*</u>	
2.18	2.04	1.29	0.90	¹ Sales
5.4	5.4	5.7	*	<u>Smoke</u>
0.42	0.49	0.45	*	FTC Tar, mg/cigt.
6.8	7.8	6.5	*	Nicotine, mg/cigt.
62	60	62	64	Puffs/cigt.
28.1	27.4	26.8	32.0	Filtration Eff., %
6.8	7.0	8.1	*	Filler Rod TPM, mg/cigt.
				CO, mg/cigt.
				<u>Cigarette</u>
118	63	120	47	Total RTD, mm of H ₂ O
6.4	6.6	6.1	7.8	Static Burn. Time, min.
84.1	84.3	83.8	83.7	Length, mm
25.0	24.9	25.0	24.9	Circumference, mm
				<u>Paper</u>
Cit.	Cit.	Cit.	Cit.	Component Type
2.1	0.6	1.6	0.4	Component Percent
21	15	21	20	Porosity, sec.
25	39	26	26	Permeability, ml/cm ² .min.
				<u>Filter</u>
CA	-	CA	CA	Type
-	CA	-	-	Inner
-	PL	-	-	Outer
132	109	134	101	RTD, mm of H ₂ O
26.9	24.9	26.9	27.0	Length, mm
0.20	0.18	0.19	0.20	Weight, g
2.6/Y	-	2.7/Y	2.4/Y	Fiber denier/shape
-	1.9/Y	-	-	Inner
-	-	-	-	Outer
				Tipping Paper
31.0	30.0	31.0	32.0	Length, mm
White	White	Cork	Cork	Color
51	61	45	83	Ventilation, %
				<u>Filler</u>
2.12	2.39	2.17	2.10	Total alkaloids, % (DWB)
7.1	5.0	6.7	6.4	Total red. sugars, % (DWB)
24	20	24	14	Reconstituted Tob., %
None	None	None	7	Expanded Stems, %
25	14	25	11	Expanded Tob., %
0.593	0.672	0.589	0.674	Wt. of Tob., g (12.5% OV)
57.2	59.4	56.8	56.8	Rod Length, mm
0.209	0.229	0.207	0.241	Rod Density, g/cc

*The FTC has determined that the present testing methodology does not accurately measure Brown & Williamson's Barclay and Kool Ultra cigarette smoke deliveries. Data are given on page XIX.

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LOW TAR 85 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Merit</u>	<u>Merit (Box)</u>	<u>Kent Golden Lights</u>	<u>Camel Lights</u>
¹ Sales	5.81	1.46	1.64	5.29
<u>Smoke</u>				
FTC Tar, mg/cigt.	7.7	7.7	7.8	9.0
Nicotine, mg/cigt.	0.61	0.61	0.67	0.62
Puffs/cigt.	7.2	7.3	7.0	7.4
Filtration Eff., %	61	62	51	61
Filler Rod TPM, mg/cigt.	27.4	27.0	29.3	29.6
CO, mg/cigt.	9.1	9.7	8.1	11.0
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	124	125	104	135
Static Burn. Time, min.	7.1	7.7	6.6	8.1
Length, mm	84.1	82.9	83.7	83.8
Circumference, mm	24.9	24.9	25.0	25.0
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	1.5	1.3	2.0	0.6
Porosity, sec.	12	14	18	19
Permeability, ml/cm ² .min.	45	47	34	27
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	116	115	87	118
Length, mm	27.0	27.1	24.9	26.9
Weight, g	0.17	0.17	0.15	0.18
Fiber denier/shape	2.7/Y	2.5/Y	3.1/Y	2.4/Y
Tipping Paper				
Length, mm	32.0	32.0	32.0	31.0
Color	Cork	Cork	White	Cork
Ventilation, %	29	29	40	24
<u>Filler</u>				
Total alkaloids, % (DWB)	2.13	2.17	2.38	1.87
Total red. sugars, % (DWB)	7.1	6.7	7.6	6.8
Reconstituted Tob., %	22	22	22	24
Expanded Stems, %	3	3	None	None
Expanded Tob., %	12	12	11	16
Wt. of Tob., g (12.5% OV)	0.669	0.659	0.678	0.669
Rod Length, mm	57.0	55.8	58.8	56.9
Rod Density, g/cc	0.238	0.239	0.232	0.236

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196199

LOW TAR 85 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

Winston <u>Lights</u>	Parliament <u>Lights</u>	Vantage	Marlboro <u>Lights (Box)</u>	
11.32	1.05	6.68	14.68	¹ Sales
				<u>Smoke</u>
9.2	9.4	9.9	10.6	FTC Tar, mg/cigt.
0.65	0.73	0.70	0.79	Nicotine, mg/cigt.
7.1	7.7	6.9	7.8	Puffs/cigt.
58	56	61	57	Filtration Eff., %
29.4	28.8	28.0	30.9	Filler Rod TPM, mg/cigt.
10.5	9.8	12.9	11.1	CO, mg/cigt.
				<u>Cigarette</u>
122	120	146	121	Total RTD, mm of H ₂ O
7.2	7.1	7.0	8.2	Static Burn. Time, min.
84.0	83.9	83.7	83.0	Length, mm
25.0	24.8	25.1	24.9	Circumference, mm
				<u>Paper</u>
Cit.	Cit.	Cit.	Cit.	Component Type
0.5	1.6	0.9	0.4	Component Percent
14	12	14	17	Porosity, sec.
36	49	41	32	Permeability, ml/cm ² .min.
				<u>Filter</u>
CA	CA	CA	CA	Type
100	117	109	100	RTD, mm of H ₂ O
27.0	25.0	25.0	26.9	Length, mm
0.18	0.13	0.29	0.17	Weight, g
2.8/Y	2.5/Y	1.6/R	3.0/Y	Fiber denier/shape
				Tipping Paper
31.0	30.0	30.0	31.0	Length, mm
Cork	White	Cork	White	Color
22	33	10	21	Ventilation, %
				<u>Filler</u>
1.80	2.11	1.99	2.14	Total alkaloids, % (DWB)
7.1	7.0	7.7	6.8	Total red. sugars, % (DWB)
24	22	24	22	Reconstituted Tob., %
None	3	None	3	Expanded Stems, %
16	12	16	12	Expanded Tob., %
0.644	0.693	0.677	0.668	Wt. of Tob., g (12.5% OV)
57.0	58.9	58.7	56.0	Rod Length, mm
0.227	0.240	0.231	0.241	Rod Density, g/cc

2021196200

LOW TAR 85 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Marlboro Lights</u>	<u>Viceroy Lights</u>	<u>Raleigh Lights</u>	<u>Marlboro Lights 25's</u>
¹ Sales	21.40	0.21	0.37	0.82
<u>Smoke</u>				
FTC Tar, mg/cigt.	10.9	10.9	11.0	11.2
Nicotine, mg/cigt.	0.81	0.83	0.83	0.81
Puffs/cigt.	8.0	8.0	8.0	8.4
Filtration Eff., %	56	59	59	57
Filler Rod TPM, mg/cigt.	31.7	31.8	29.6	32.2
CO, mg/cigt.	11.2	11.6	11.5	11.9
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	121	132	131	124
Static Burn. Time, min.	8.1	7.9	7.5	8.3
Length, mm	84.0	83.6	83.5	84.2
Circumference, mm	24.9	25.0	25.0	24.9
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.4	0.7	0.9	0.4
Porosity, sec.	16	19	18	16
Permeability, ml/cm ² .min.	40	31	30	34
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	101	101	103	101
Length, mm	27.0	26.9	26.6	27.0
Weight, g	0.16	0.17	0.17	0.17
Fiber denier/shape	3.0/Y	2.5/Y	3.0/Y	3.0/Y
Tipping Paper				
Length, mm	31.0	32.0	32.0	31.0
Color	White	Cork	Cork	White
Ventilation, %	23	20	20	21
<u>Filler</u>				
Total alkaloids, % (DWB)	2.12	2.07	2.10	2.08
Total red. sugars, % (DWB)	7.3	6.8	7.3	6.4
Reconstituted Tob., %	22	16	16	22
Expanded Stems, %	3	5	5	3
Expanded Tob., %	12	None	None	12
Wt. of Tob., g (12.5% OV)	0.680	0.736	0.728	0.686
Rod Length, mm	57.0	56.7	56.9	57.2
Rod Density, g/cc	0.242	0.262	0.257	0.243

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196201

LOW TAR 85 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>Lucky Strike</u>	<u>Kent</u>	<u>L & M</u>	
1.07	3.28	1.22	¹ Sales
			<u>Smoke</u>
11.4	11.7	12.9	FTC Tar, mg/cigt.
0.88	0.83	1.02	Nicotine, mg/cigt.
8.4	8.2	7.6	Puffs/cigt.
52	52	46	Filtration Eff., %
31.4	27.7	26.7	Filler Rod TPM, mg/cigt.
12.4	12.9	12.3	CO, mg/cigt.
			<u>Cigarette</u>
126	135	111	Total RTD, mm of H ₂ O
8.3	7.2	7.5	Static Burn. Time, min.
82.5	84.3	84.4	Length, mm
25.1	25.0	24.7	Circumference, mm
			<u>Paper</u>
Cit.	Cit.	Cit.	Component Type
0.8	0.6	0.4	Component Percent
21	15	5*	Porosity, sec.
25	38	181	Permeability, ml/cm ² .min.
			<u>Filter</u>
CA	CA	CA	Type
83	87	68	RTD, mm of H ₂ O
25.0	20.9	24.8	Length, mm
0.18	0.14	0.14	Weight, g
2.8/Y	3.0/Y	3.7/Y	Fiber denier/shape
			Tipping Paper
30.0	25.0	30.0	Length, mm
Cork	White	White	Color
17	19	None	Ventilation, %
			<u>Filler</u>
1.94	2.04	2.16	Total alkaloids, % (DWB)
9.2	6.7	8.3	Total red. sugars, % (DWB)
18	22	14	Reconstituted Tob., %
None	None	4	Expanded Stems, %
11	11	23	Expanded Tob., %
0.713	0.749	0.618	Wt. of Tob., g (12.5% OV)
57.5	63.4	59.6	Rod Length, mm
0.247	0.238	0.213	Rod Density, g/cc

*These cigarette papers are perforated.

2021196202

LOW TAR 85 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Camel</u>	<u>Raleigh</u>
¹ Sales	5.97	1.72
<u>Smoke</u>		
FTC Tar, mg/cigt.	14.2	14.3
Nicotine, mg/cigt.	0.94	0.91
Puffs/cigt.	7.8	7.2
Filtration Eff., %	45	46
Filler Rod TPM, mg/cigt.	28.0	27.7
CO, mg/cigt.	13.4	13.5
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	110	118
Static Burn. Time, min.	6.9	6.5
Length, mm	83.8	83.9
Circumference, mm	25.0	25.0
<u>Paper</u>		
Component Type	Cit.	Cit.
Component Percent	0.9	0.2
Porosity, sec.	14	13
Permeability, ml/cm ² .min.	41	44
<u>Filter</u>		
Type	CA	CA
RTD, mm of H ₂ O	70	65
Length, mm	20.9	20.9
Weight, g	0.13	0.12
Fiber denier/shape	3.0/Y	2.8/Y
Tipping Paper		
Length, mm	25.0	26.0
Color	Cork	Cork
Ventilation, %	12	None
<u>Filler</u>		
Total alkaloids, % (DWB)	1.92	2.03
Total red. sugars, % (DWB)	6.5	7.6
Reconstituted Tob., %	24	10
Expanded Stems, %	None	13
Expanded Tob., %	16	11
Wt. of Tob., g (12.5% OV)	0.731	0.710
Rod Length, mm	63.0	63.0
Rod Density, g/cc	0.234	0.226

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196203

FULL FLAVORED 85 MM FILTER CIGARETTES
(16 MG TAR OR MORE)
(Brands Ranked by FTC Tar, left to right)

	<u>Old Gold</u>	<u>Winston</u>	<u>Marlboro</u> <u>25's</u>	<u>Viceroy</u>	<u>Marlboro</u>
¹ Sales	0.75	24.93	1.58	2.30	29.87
<u>Smoke</u>					
FTC Tar, mg/cigt.	15.6	15.6	16.0	(16.4)	16.7
Nicotine, mg/cigt.	1.17	1.07	1.16	(1.17)	1.17
Puffs/cigt.	7.7	(8.1)	8.8	(8.6)	9.1
Filtration Eff., %	45	48	47	47	46
Filler Rod TPM, mg/cigt.	31.0	32.0	31.3	(33.1)	31.0
CO, mg/cigt.	15.6	15.8	13.8	14.4	14.0
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	122	(118)	113	127	111
Static Burn. Time, min.	7.6	7.5	8.1	(8.3)	7.7
Length, mm	83.9	84.1	83.9	83.8	84.3
Circumference, mm	25.0	25.0	24.9	25.0	25.0
<u>Paper</u>					
Component Type	Cit.	Cit.	Cit.	Cit.	Cit.
Component Percent	0.7	0.4	0.4	0.5	0.4
Porosity, sec.	27	22	17	(20)	17
Permeability, ml/cm ² .min.	20	25	31	(25)	35
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	64	77	70	78	69
Length, mm	20.9	21.1	21.0	21.0	21.0
Weight, g	0.12	0.14	0.12	0.12	0.12
Fiber denier/shape	3.0/Y	3.6/Y	3.3/Y	3.9/Y	3.2/Y
Tipping Paper					
Length, mm	26.0	25.0	25.0	26.0	25.0
Color	Cork	Cork	Cork	Cork	Cork
Ventilation, %	None	(6)	10	(10)	11
<u>Filler</u>					
Total alkaloids, % (DWB)	2.39	(2.02)	2.08	2.06	2.07
Total red. sugars, % (DWB)	7.8	6.9	7.1	7.7	7.0
Reconstituted Tob., %	22	24	22	12	22
Expanded Stems, %	None	None	3	(5)	3
Expanded Tob., %	11	16	12	10	12
Wt. of Tob., g (12.5% OV)	0.720	(0.714)	0.753	(0.732)	0.750
Rod Length, mm	63.0	62.9	62.9	62.8	63.3
Rod Density, g/cc	0.230	(0.228)	0.242	(0.234)	0.239

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

85 mm
MENTHOL

2021196204

ULTRA LOW TAR 85 MM FILTER MENTHOL CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	Carlton	Now	Salem Ultra Lights
¹ Sales	0.63	0.40	1.65
<u>Smoke</u>			
FTC Tar, mg/cigt.	1.1	1.4	5.1
Nicotine, mg/cigt.	0.11	0.13	0.43
Puffs/cigt.	6.8	6.3	6.9
Filtration Eff., %	75	73	64
Filler Rod TPM, mg/cigt.	21.8	22.8	27.2
CO, mg/cigt.	1.2	1.8	7.2
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	105	113	119
Static Burn. Time, ² min.	5.4	6.1	6.8
Length, mm	82.9	83.8	84.1
Circumference, mm	25.0	25.0	25.1
<u>Paper</u>			
Component Type	Cit.	Cit.	Cit.
Component Percent	0.8	0.5	1.7
Porosity, sec.	13	15	19
Permeability, ml/cm ² .min.	47	38	25
<u>Filter</u>			
Type	CA	CA	CA
Inner	-	-	-
Outer	-	-	-
RTD, mm of H ₂ O	150	169	137
Length, mm	25.0	27.0	27.0
Weight, g	0.19	0.20	0.19
Fiber denier/shape	1.8/Y	1.9/Y	2.6/Y
Inner	-	-	-
Outer	-	-	-
Tipping Paper			
Length, mm	30.0	31.0	31.0
Color	White	White	White
Ventilation, %	78	75	52
<u>Filler</u>			
Total alkaloids, % (DWB)	2.24	2.32	2.14
Total red. sugars, % (DWB)	5.6	5.6	5.1
Reconstituted Tob., %	18	15	24
Expanded Stems, %	None	None	None
Expanded Tob., %	46	52	28
Wt. of Tob., g (12.5% OV)	0.520	0.479	0.593
Rod Length, mm	58.0	56.8	57.0
Rod Density, g/cc	0.181	0.170	0.208
<u>Menthol, mg/cigt.</u>			
Smoke	0.15	0.18	0.30
Filler	4.6	3.7	2.6
Filter	2.6	4.6	1.5

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196205

ULTRA LOW TAR 85 MM FILTER MENTHOL CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

Merit			
<u>Ultra Lights</u>	<u>True</u>	<u>Kool Ultra*</u>	
0.73	0.91	0.42	¹ Sales
			<u>Smoke</u>
5.2	5.4	*	FTC Tar, mg/cigt.
0.46	0.51	*	Nicotine, mg/cigt.
8.1	7.6	*	Puffs/cigt.
62	54	60	Filtration Eff., %
29.1	27.4	27.6	Filler Rod TPM, mg/cigt.
5.7	5.7	*	CO, mg/cigt.
			<u>Cigarette</u>
110	67	41	Total RTD, mm of H ₂ O
7.5	6.8	6.9	Static Burn. Time, min.
84.1	84.0	83.8	Length, mm
24.9	25.0	24.9	Circumference, mm
			<u>Paper</u>
Cit.	Cit.	Cit.	Component Type
0.4	0.7	0.9	Component Percent
19	15	12	Porosity, sec.
27	36	50	Permeability, ml/cm ² .min.
			<u>Filter</u>
CA	-	CA	Type
-	CA	-	Inner
-	PL	-	Outer
131	111	89	RTD, mm of H ₂ O
26.9	24.9	27.0	Length, mm
0.18	0.17	0.19	Weight, g
2.8/Y	-	4.0/Y	Fiber denier/shape
-	1.8/Y	-	Inner
-	-	-	Outer
			Tipping Paper
32.0	30.0	32.0	Length, mm
Cork	White	Cork	Color
54	58	70	Ventilation, %
			<u>Filler</u>
2.22	2.45	2.23	Total alkaloids, % (DWB)
6.0	5.5	6.3	Total red. sugars, % (DWB)
22	20	13	Reconstituted Tob., %
None	None	10	Expanded Stems, %
20	14	11	Expanded Tob., %
0.611	0.668	0.651	Wt. of Tob., g (12.5% OV)
57.2	59.1	56.7	Rod Length, mm
0.217	0.228	0.232	Rod Density, g/cc
			<u>Menthol, mg/cigt.</u>
0.43	0.26	0.12	Smoke
3.3	2.2	2.2	Filler
2.1	1.1	1.4	Filter

*The FTC has determined that the present testing methodology does not accurately measure Brown & Williamson's Barclay and Kool Ultra cigarette smoke deliveries. Data are given on page XIX.

2021196206

LOW TAR 85 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Merit</u>	<u>Newport Lights</u>	<u>Kent Golden Lights</u>	<u>Kool Lights</u>
¹ Sales	0.90	1.39	0.08	0.79
<u>Smoke</u>				
FTC Tar, mg/cigt.	7.9	8.0	8.0	8.3
Nicotine, mg/cigt.	0.65	0.72	0.72	0.70
Puffs/cigt.	8.1	7.2	7.0	7.2
Filtration Eff., %	61	53	51	56
Filler Rod TPM, mg/cigt.	29.9	27.4	28.1	27.6
CO, mg/cigt.	9.8	8.2	8.5	8.7
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	130	106	107	118
Static Burn. Time, min.	8.1	6.8	6.9	7.4
Length, mm	84.0	84.0	83.9	83.7
Circumference, mm	25.0	25.0	25.0	25.0
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.5	2.1	2.1	0.2
Porosity, sec.	13	19	19	12
Permeability, ml/cm ² .min.	45	25	27	44
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	123	87	87	101
Length, mm	27.0	25.1	25.0	26.9
Weight, g	0.18	0.15	0.15	0.17
Fiber denier/shape	2.6/Y	2.9/Y	3.1/Y	2.5/Y
Tipping Paper				
Length, mm	32.0	32.0	32.0	32.0
Color	Cork	Cork	White	Cork
Ventilation, %	31	37	38	33
<u>Filler</u>				
Total alkaloids, % (DWB)	2.12	2.37	2.38	2.25
Total red. sugars, % (DWB)	6.4	7.9	7.5	6.3
Reconstituted Tob., %	22	22	22	13
Expanded Stems, %	3	None	None	10
Expanded Tob., %	12	11	11	11
Wt. of Tob., g (12.5% OV)	0.676	0.680	0.684	0.650
Rod Length, mm	57.0	59.0	58.9	56.8
Rod Density, g/cc	0.239	0.232	0.234	0.230
<u>Menthol, mg/cigt.</u>				
Smoke	0.49	0.32	0.36	0.33
Filler	2.7	1.9	1.9	1.9
Filter	1.9	1.9	1.1	1.3

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196207

LOW TAR 85 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>Salem Lights</u>	<u>Marlboro Lights (Box)</u>	<u>Vantage</u>	<u>Belair</u>	
9.77	-	1.10	1.44	¹ Sales
				<u>Smoke</u>
9.3	9.5	9.6	10.2	FTC Tar, mg/cigt.
0.69	0.76	0.67	0.81	Nicotine, mg/cigt.
6.9	7.3	7.7	6.7	Puffs/cigt.
57	53	59	48	Filtration Eff., %
25.3	26.9	30.2	27.7	Filler Rod TPM, mg/cigt.
11.1	9.9	11.1	9.1	CO, mg/cigt.
				<u>Cigarette</u>
126	112	131	105	Total RTD, mm of H ₂ O
6.8	7.1	7.6	7.1	Static Burn. Time, min.
83.8	82.8	83.8	83.7	Length, mm
25.0	25.0	25.1	25.0	Circumference, mm
				• <u>Paper</u>
Cit.	Cit.	Cit.	Cit.	Component Type
1.0	0.4	1.5	0.3	Component Percent
14	15	19	13	Porosity, sec.
41	39	28	44	Permeability, ml/cm ² .min.
				<u>Filter</u>
CA	CA	CA	CA	Type
108	90	103	74	RTD, mm of H ₂ O
26.9	27.0	25.1	26.9	Length, mm
0.18	0.17	0.29	0.16	Weight, g
3.4/Y	3.9/Y	1.7/R	4.0/Y	Fiber denier/shape
				Tipping Paper
31.0	31.0	30.0	32.0	Length, mm
White	White	Cork	White	Color
21	23	30	21	Ventilation, %
				<u>Filler</u>
1.98	2.10	1.78	2.29	Total alkaloids, % (DWB)
7.3	8.0	7.2	6.2	Total red. sugars, % (DWB)
24	22	24	10	Reconstituted Tob., %
None	None	None	13	Expanded Stems, %
16	15	16	11	Expanded Tob., %
0.637	0.638	0.706	0.639	Wt. of Tob., g (12.5% OV)
56.8	55.8	58.7	56.8	Rod Length, mm
0.224	0.231	0.241	0.226	Rod Density, g/cc
				<u>Menthol, mg/cigt.</u>
0.41	0.46	0.35	0.29	Smoke
2.4	2.2	2.5	1.5	Filler
1.4	1.8	1.8	0.9	Filter

2021196208

LOW TAR 85 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	Kool <u>Milds (Box)</u>	<u>Kool Milds</u>
¹ Sales	0.59	4.41
<u>Smoke</u>		
FTC Tar, mg/cigt.	11.0	11.9
Nicotine, mg/cigt.	0.85	0.91
Puffs/cigt.	7.6	7.3
Filtration Eff., %	49	51
Filler Rod TPM, mg/cigt.	28.1	29.9
CO, mg/cigt.	10.7	12.4
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	124	122
Static Burn. Time, min.	6.8	7.7
Length, mm	79.8	83.9
Circumference, mm	25.0	25.0
<u>Paper</u>		
Component Type	Cit.	Cit.
Component Percent	0.5	0.5
Porosity, sec.	21	22
Permeability, ml/cm ² .min.	24	24
<u>Filter</u>		
Type	CA	CA
RTD, mm of H ₂ O	82	81
Length, mm	19.1	26.9
Weight, g	0.13	0.17
Fiber denier/shape	3.0/Y	3.3/Y
Tipping Paper		
Length, mm	26.0	32.0
Color	Cork	Cork
Ventilation, %	22	18
<u>Filler</u>		
Total alkaloids, % (DWB)	2.22	2.21
Total red. sugars, % (DWB)	6.7	6.5
Reconstituted Tob., %	13	13
Expanded Stems, %	10	10
Expanded Tob., %	11	11
Wt. of Tob., g (12.5% OV)	0.696	0.680
Rod Length, mm	60.6	57.0
Rod Density, g/cc	0.231	0.240
<u>Menthol, mg/cigt.</u>		
Smoke	0.48	0.47
Filler	2.2	2.2
Filter	1.0	1.2

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196209

FULL FLAVORED 85 MM FILTER MENTHOL CIGARETTES
(16 MG TAR OR MORE)
(Brands Ranked by FTC Tar, left to right)

	<u>Kool</u>	<u>Marlboro</u>	<u>Alpine</u>	<u>Newport</u>	<u>Salem</u>
¹ Sales	16.27	1.45	0.11	9.94	9.60
<u>Smoke</u>					
FTC Tar, mg/cigt.	15.4	15.5	15.7	15.8	16.0
Nicotine, mg/cigt.	1.06	1.05	1.07	1.07	1.08
Puffs/cigt.	7.1	8.2	8.9	7.8	7.7
Filtration Eff., %	43	44	45	45	47
Filler Rod TPM, mg/cigt.	28.0	28.2	32.6	29.1	29.0
CO, mg/cigt.	15.1	13.9	14.2	16.9	15.6
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	112	114	116	122	117
Static Burn. Time, min.	6.7	7.3	8.3	7.2	7.2
Length, mm	83.7	84.0	83.8	84.1	83.8
Circumference, mm	25.0	24.9	24.9	25.0	25.0
<u>Paper</u>					
Component Type	Cit.	Cit.	Cit.	Cit.	Cit.
Component Percent	0.7	0.5	0.5	0.8	0.5
Porosity, sec.	18	14	17	27	21
Permeability, ml/cm ² .min.	28	47	32	19	25
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	56	61	67	64	67
Length, mm	20.9	21.1	21.0	21.0	21.0
Weight, g	0.12	0.13	0.13	0.12	0.13
Fiber denier/shape	4.1/Y	4.1/Y	3.1/Y	3.4/Y	2.7/Y
<u>Tipping Paper</u>					
Length, mm	26.0	25.0	25.0	25.0	25.0
Color	Cork	Cork	White	Cork	White
Ventilation, %	None	None	8	None	None
<u>Filler</u>					
Total alkaloids, % (DWB)	2.42	2.11	1.90	2.36	2.23
Total red. sugars, % (DWB)	6.3	8.3	7.1	7.6	7.2
Reconstituted Tob., %	13	22	22	22	24
Expanded Stems, %	10	None	3	None	None
Expanded Tob., %	11	15	12	11	16
Wt. of Tob., g (12.5% OV)	0.722	0.740	0.751	0.724	0.712
Rod Length, mm	62.8	62.9	62.8	63.2	62.9
Rod Density, g/cc	0.232	0.239	0.242	0.231	0.227
<u>Menthol, mg/cigt.</u>					
Smoke	0.50	0.57	0.54	0.44	0.63
Filler	1.9	2.0	2.0	1.5	2.3
Filter	0.9	1.1	1.1	0.8	0.9

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

100-120mm
PLAIN

2021196210

ULTRA LOW TAR 100 MM FILTER CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	Carlton (Box)	Now	Carlton	Winston Ultra Lights
¹ Sales	1.53	2.80	2.99	2.06
<u>Smoke</u>				
FTC Tar, mg/cigt.	1.1	2.2	3.4	5.0
Nicotine, mg/cigt.	0.11	0.20	0.33	0.41
Puffs/cigt.	7.9	7.4	8.6	8.3
Filtration Eff., %	72	70	62	67
Filler Rod TPM, mg/cigt.	22.9	23.4	22.8	26.7
CO, mg/cigt.	0.9	3.0	3.6	7.6
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	84	95	105	136
Static Burn. Time, min.	5.4	5.7	5.7	6.4
Length, mm	98.4	98.8	99.7	98.8
Circumference, mm	24.5	25.0	24.4	25.0
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.8	1.6	0.8	0.9
Porosity, sec.	13	20	20	14
Permeability, ml/cm ² .min.	48	28	28	47
<u>Filter</u>				
Type	CA	CA	CA	CA
Inner	-	-	-	-
Outer	-	-	-	-
RTD, mm of H ₂ O	125	139	126	158
Length, mm	26.8	30.9	26.9	31.0
Weight, g	0.19	0.21	0.19	0.22
Fiber denier/shape	3.2/I	2.5/Y	3.4/Y	2.5/Y
Inner	-	-	-	-
Outer	-	-	-	-
Tipping Paper				
Length, mm	35.0	35.0	32.0	35.0
Color	White	White	White	Cork
Ventilation, %	83	74	68	50
<u>Filler</u>				
Total alkaloids, % (DWB)	2.29	2.35	2.35	2.05
Total red. sugars, % (DWB)	6.2	5.6	6.1	6.9
Reconstituted Tob., %	18	15	18	24
Expanded Stems, %	None	None	None	None
Expanded Tob., %	46	52	46	25
Wt. of Tob., g (12.5% OV)	0.636	0.585	0.648	0.721
Rod Length, mm	71.7	67.8	72.8	67.8
Rod Density, g/cc	0.186	0.173	0.188	0.213

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196211

ULTRA LOW TAR 100 MM FILTER CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>Vantage Ultra Lights</u>	<u>Kent III</u>	<u>B & H DeLuxe Ultra Lights (Box)</u>	
2.27	1.91	3.53	¹ Sales
			<u>Smoke</u>
5.1	5.2	5.7	FTC Tar, mg/cigt.
0.43	0.45	0.48	Nicotine, mg/cigt.
8.5	8.3	8.7	Puffs/cigt.
67	67	64	Filtration Eff., %
27.3	29.2	27.3	Filler Rod TPM, mg/cigt.
7.6	6.3	6.2	CO, mg/cigt.
			<u>Cigarette</u>
127	123	113	Total RTD, mm of H ₂ O
6.5	6.2	7.0	Static Burn. Time, min.
98.8	98.8	98.3	Length, mm
25.0	24.9	24.1	Circumference, mm
			<u>Paper</u>
Cit.	Cit.	Cit.	Component Type
1.7	2.2	1.6	Component Percent
22	19	12	Porosity, sec.
22	28	47	Permeability, ml/cm ² .min.
			<u>Filter</u>
CA	-	CA	Type
-	CA	-	Inner
-	CA	-	Outer
150	127	130	RTD, mm of H ₂ O
30.8	26.9	31.5	Length, mm
0.22	0.16	0.18	Weight, g
2.3/Y	-	2.8/Y	Fiber denier/shape
-	1.8/Y	-	Inner
-	3.0/Y	-	Outer
			Tipping Paper
35.0	34.0	36.0	Length, mm
White	White	White	Color
53	52	52	Ventilation, %
			<u>Filler</u>
2.13	2.40	2.10	Total alkaloids, % (DWB)
6.8	6.5	6.6	Total red. sugars, % (DWB)
24	15	22	Reconstituted Tob., %
None	None	3	Expanded Stems, %
25	25	19	Expanded Tob., %
0.724	0.720	0.708	Wt. of Tob., g (12.5% OV)
68.0	71.9	66.9	Rod Length, mm
0.215	0.202	0.228	Rod Density, g/cc

2021196212

ULTRA LOW TAR 100 MM FILTER CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	Merit <u>Ultra Lights</u>	<u>Barclay*</u>
¹ Sales	2.62	0.63
<u>Smoke</u>		
FTC Tar, mg/cigt.	5.9	*
Nicotine, mg/cigt.	0.54	*
Puffs/cigt.	9.6	*
Filtration Eff., %	67	60
Filler Rod TPM, mg/cigt.	29.3	31.7
CO, mg/cigt.	7.1	*
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	112	59
Static Burn. Time, min.	7.2	7.8
Length, mm	99.4	98.8
Circumference, mm	24.9	24.8
<u>Paper</u>		
Component Type	Cit.	Cit.
Component Percent	0.4	0.5
Porosity, sec.	19	21
Permeability, ml/cm ² .min.	35	22
<u>Filter</u>		
Type	CA	CA
RTD, mm of H ₂ O	136	90
Length, mm	31.4	27.1
Weight, g	0.20	0.20
Fiber denier/shape	3.0/Y	3.8/Y
Tipping Paper		
Length, mm	36.0	36.0
Color	Cork	Cork
Ventilation, %	54	78
<u>Filler</u>		
Total alkaloids, % (DWB)	2.23	2.03
Total red. sugars, % (DWB)	6.2	7.2
Reconstituted Tob., %	22	14
Expanded Stems, %	None	7
Expanded Tob., %	20	11
Wt. of Tob., g (12.5% OV)	0.726	0.857
Rod Length, mm	68.1	71.7
Rod Density, g/cc	0.216	0.244

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

*The FTC has determined that the present testing methodology does not accurately measure Brown & Williamson's Barclay and Kool Ultra cigarette smoke deliveries. Data are given on page XIX.

2021196213

LOW TAR 100 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>True</u>	<u>Vantage</u>	<u>Ritz (Box)</u>	<u>Kent Golden Lights</u>
¹ Sales	1.59	3.54	0.19	1.49
<u>Smoke</u>				
FTC Tar, mg/cigt.	7.8	8.7	8.7	8.9
Nicotine, mg/cigt.	0.67	0.62	0.71	0.78
Puffs/cigt.	8.9	8.4	8.6	9.0
Filtration Eff., %	51	59	54	52
Filler Rod TPM, mg/cigt.	27.7	27.1	26.8	28.0
CO, mg/cigt.	7.2	11.6	9.2	8.9
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	61	141	123	102
Static Burn. Time, min.	6.4	6.6	6.6	7.0
Length, mm	98.9	99.3	97.7	99.0
Circumference, mm	25.0	25.0	24.2	25.0
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	2.2	1.0	0.5	2.2
Porosity, sec.	18	14	14	18
Permeability, ml/cm ² .min.	30	36	39	28
<u>Filter</u>				
Type	-	CA	CA	CA
Inner	CA	-	-	-
Outer	PL	-	-	-
RTD, mm of H ₂ O	79	122	105	86
Length, mm	26.9	27.5	31.0	26.8
Weight, g	0.16	0.30	0.19	0.15
Fiber denier/shape	-	2.6/Y	4.0/Y	3.1/Y
Inner	1.8/Y	-	-	-
Outer	-	-	-	-
Tipping Paper				
Length, mm	34.0	34.0	35.0	34.0
Color	White	Cork	White	White
Ventilation, %	58	34	34	42
<u>Filler</u>				
Total alkaloids, % (DWB)	2.40	1.82	2.02	2.36
Total red. sugars, % (DWB)	5.3	6.8	8.0	7.8
Reconstituted Tob., %	20	24	24	22
Expanded Stems, %	None	None	None	None
Expanded Tob., %	14	20	16	11
Wt. of Tob., g (12.5% OV)	0.817	0.781	0.737	0.824
Rod Length, mm	72.1	71.8	66.7	72.2
Rod Density, g/cc	0.228	0.219	0.237	0.229

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196214

LOW TAR 100 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Merit</u>	<u>Winston Lights (Box)</u>	<u>Marlboro Lights</u>
¹ Sales	4.25	0.51	10.50
<u>Smoke</u>			
FTC Tar, mg/cigt.	9.6	9.8	10.2
Nicotine, mg/cigt.	0.77	0.69	0.82
Puffs/cigt.	9.4	8.9	9.9
Filtration Eff., %	60	59	59
Filler Rod TPM, mg/cigt.	29.0	27.9	31.0
CO, mg/cigt.	11.2	12.1	11.6
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	125	149	126
Static Burn. Time, min.	7.4	7.3	7.6
Length, mm	99.5	97.8	99.4
Circumference, mm	24.9	24.2	25.0
<u>Paper</u>			
Component Type	Cit.	Cit.	Cit.
Component Percent	0.4	0.5	0.5
Porosity, sec.	12	15	13
Permeability, ml/cm ² .min.	48	38	41
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	110	123	111
Length, mm	31.4	30.9	31.4
Weight, g	0.19	0.19	0.19
Fiber denier/shape	2.6/Y	3.1/Y	2.8/Y
Tipping Paper			
Length, mm	36.0	35.0	36.0
Color	Cork	Cork	White
Ventilation, %	29	22	30
<u>Filler</u>			
Total alkaloids, % (DWB)	2.12	1.80	2.07
Total red. sugars, % (DWB)	6.6	7.2	6.9
Reconstituted Tob., %	22	24	22
Expanded Stems, %	3	None	3
Expanded Tob., %	12	16	12
Wt. of Tob., g (12.5% OV)	0.800	0.749	0.809
Rod Length, mm	68.1	66.8	68.0
Rod Density, g/cc	0.238	0.240	0.240

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196215

LOW TAR 100 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>B & H</u> <u>Lights</u>	<u>Satin</u>	<u>Camel</u> <u>Lights</u>	
2.95	0.26	1.66	¹ Sales
			<u>Smoke</u>
10.2	10.4	10.7	FTC Tar, mg/cigt.
0.85	0.87	0.74	Nicotine, mg/cigt.
9.9	8.4	8.8	Puffs/cigt.
58	53	56	Filtration Eff., %
31.6	27.9	27.5	Filler Rod TPM, mg/cigt.
12.2	12.0	12.3	CO, mg/cigt.
			<u>Cigarette</u>
126	116	122	Total RTD, mm of H ₂ O
7.8	6.6	7.3	Static Burn. Time, min.
99.4	99.1	98.8	Length, mm
24.9	25.0	25.0	Circumference, mm
			<u>Paper</u>
Cit.	Cit.	Cit.	Component Type
0.5	1.8	0.6	Component Percent
16	18	14	Porosity, sec.
34	31	36	Permeability, ml/cm ² .min.
			<u>Filter</u>
CA	CA	CA	Type
111	84	97	RTD, mm of H ₂ O
31.3	27.0	30.8	Length, mm
0.19	0.15	0.18	Weight, g
2.6/Y	2.6/Y	2.6/Y	Fiber denier/shape
			Tipping Paper
36.0	34.0	35.0	Length, mm
White	White	Cork	Color
30	27	23	Ventilation, %
			<u>Filler</u>
2.14	2.31	1.78	Total alkaloids, % (DWB)
6.6	7.2	6.8	Total red. sugars, % (DWB)
22	22	24	Reconstituted Tob., %
3	None	None	Expanded Stems, %
12	11	16	Expanded Tob., %
0.811	0.821	0.792	Wt. of Tob., g (12.5% OV)
68.1	72.2	68.0	Rod Length, mm
0.241	0.230	0.233	Rod Density, g/cc

2021196216

LOW TAR 100 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	Marlboro <u>Lights</u> <u>(Box)</u>	Winston <u>Lights</u>	Viceroy <u>Lights</u>	Raleigh <u>Lights</u>
¹ Sales	4.85	7.47	0.22	0.40
<u>Smoke</u>				
FTC Tar, mg/cigt.	10.8	10.9	11.8	11.8
Nicotine, mg/cigt.	0.86	0.76	0.90	0.91
Puffs/cigt.	9.6	9.0	9.4	8.9
Filtration Eff., %	58	56	57	58
Filler Rod TPM, mg/cigt.	31.2	28.7	28.0	28.5
CO, mg/cigt.	12.0	11.6	12.9	13.4
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	131	126	141	142
Static Burn. Time, ² min.	7.8	7.5	7.4	7.1
Length, mm	98.3	98.8	98.9	99.0
Circumference, mm	25.0	25.0	24.9	24.9
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.6	0.4	1.1	0.8
Porosity, sec.	17	14	13	12
Permeability, ml/cm ² .min.	31	41	45	47
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	110	98	103	104
Length, mm	31.4	30.9	29.9	29.8
Weight, g	0.19	0.18	0.17	0.17
Fiber denier/shape	3.0/Y	2.6/Y	2.9/Y	3.5/Y
Tipping Paper				
Length, mm	36.0	35.0	36.0	36.0
Color	White	Cork	Cork	Cork
Ventilation, %	26	24	18	15
<u>Filler</u>				
Total alkaloids, % (DWB)	2.09	1.75	2.01	2.04
Total red. sugars, % (DWB)	7.3	7.2	7.1	6.8
Reconstituted Tob., %	22	24	16	16
Expanded Stems, %	3	None	5	5
Expanded Tob., %	12	16	None	None
Wt. of Tob., g (12.5% OV)	0.800	0.781	0.865	0.838
Rod Length, mm	66.9	67.9	69.1	69.1
Rod Density, g/cc	0.241	0.232	0.254	0.247

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196217

LOW TAR 100 MM FILTER CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>Kent</u>	<u>L & M</u>	<u>Raleigh</u>	<u>Marlboro</u>	
2.21	0.30	1.30	9.69	¹ Sales
				<u>Smoke</u>
12.8	12.8	14.6	15.3	FTC Tar, mg/cigt.
0.88	1.01	0.91	1.12	Nicotine, mg/cigt.
8.9	7.8	7.8	10.3	Puffs/cigt.
48	48	46	48	Filtration Eff., %
27.8	24.7	24.8	29.9	Filler Rod TPM, mg/cigt.
13.7	13.5	15.0	14.7	CO, mg/cigt.
				<u>Cigarette</u>
131	117	125	117	Total RTD, mm of H ₂ O
7.1	6.5	6.5	7.8	Static Burn. Time, min.
98.7	98.4	98.7	99.7	Length, mm
25.0	24.7	24.9	24.9	Circumference, mm
				•
				<u>Paper</u>
Cit.	Cit.	Cit.	Cit.	Component Type
0.7	1.6	0.2	0.5	Component Percent
15	6*	13	13	Porosity, sec.
38	120	48	45	Permeability, ml/cm ² .min.
				<u>Filter</u>
CA	CA	CA	CA	Type
73	69	64	74	RTD, mm of H ₂ O
26.8	29.7	26.7	27.5	Length, mm
0.16	0.17	0.15	0.16	Weight, g
4.6/Y	3.6/Y	3.8/Y	3.7/Y	Fiber denier/shape
				Tipping Paper
34.0	35.0	32.0	31.5	Length, mm
White	White	Cork	Cork	Color
15	None	None	14	Ventilation, %
				<u>Filler</u>
2.03	2.18	2.07	2.10	Total alkaloids, % (DWB)
7.1	8.1	6.8	7.0	Total red. sugars, % (DWB)
22	14	10	22	Reconstituted Tob., %
None	4	13	3	Expanded Stems, %
11	23	11	12	Expanded Tob., %
0.848	0.710	0.798	0.875	Wt. of Tob., g (12.5% OV)
71.9	68.7	72.0	72.2	Rod Length, mm
0.238	0.212	0.225	0.241	Rod Density, g/cc

*These cigarettes are perforated.

2021196218

FULL FLAVORED 100 MM FILTER CIGARETTES
(16 MG TAR OR MORE)
(Brands Ranked by FTC Tar, left to right)

	<u>Winston</u>	<u>B & H</u>	<u>Viceroy</u>	<u>Pall Mall</u>
¹ Sales	8.96	4.77	0.80	2.60
<u>Smoke</u>				
FTC Tar, mg/cigt.	15.6	15.9	(16.4)	16.4
Nicotine, mg/cigt.	0.93	1.14	1.03	1.24
Puffs/cigt.	9.5	10.2	(10.3)	9.8
Filtration Eff., %	51	49	46	46
Filler Rod TPM, mg/cigt.	28.4	29.7	(35.0)	25.2
CO, mg/cigt.	17.6	15.9	(16.0)	16.3
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	131	121	127	132
Static Burn. Time, min.	7.8	7.8	8.2	7.2
Length, mm	99.1	99.4	98.8	99.7
Circumference, mm	25.0	24.9	24.9	24.5
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.5	0.5	0.4	0.9
Porosity, sec.	20	14	21	13
Permeability, ml/cm ² .min.	26	37	24	48
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	76	76	81	66
Length, mm	27.4	27.4	26.6	26.9
Weight, g	0.17	0.16	0.15	0.16
Fiber denier/shape	3.8/Y	3.6/Y	4.1/Y	4.2/Y
Tipping Paper				
Length, mm	32.0	32.0	32.0	32.0
Color	Cork	White	Cork	White
Ventilation, %	7	13	(17)	None
<u>Filler</u>				
Total alkaloids, % (DWB)	1.75	2.11	2.20	2.21
Total red. sugars, % (DWB)	8.1	6.7	7.9	8.8
Reconstituted Tob., %	24	22	12	18
Expanded Stems, %	None	3	(5)	4
Expanded Tob., %	16	12	10	11
Wt. of Tob., g (12.5% OV)	0.826	0.860	(0.854)	0.866
Rod Length, mm	71.7	72.1	72.0	72.8
Rod Density, g/cc	0.231	0.242	(0.240)	0.250

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196219

120 MM FILTER CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	Carlton	Virginia Slims Lights (Box)	Saratoga (Box)	More
¹ Sales	0.59	1.74	0.85	2.73
<u>Smoke</u>				
FTC Tar, mg/cigt.	5.8	13.5	14.4	16.7
Nicotine, mg/cigt.	0.55	1.06	1.14	1.23
Puffs/cigt.	11.3	12.6	13.0	12.6
Filtration Eff., %	44	52	52	49
Filler Rod TPM, mg/cigt.	20.2	27.0	28.7	33.1
CO, mg/cigt.	4.9	13.1	13.8	21.2
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	98	138	139	176
Static Burn. Time, min.	6.1	7.5	7.3	8.3
Length, mm	119.6	119.6	119.9	119.6
Circumference, mm	22.3	23.0	23.1	21.1
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.8	0.4	0.4	0.8
Color	White	White	White	Brown
Porosity, sec.	13	14	20	37
Permeability, ml/cm ² .min.	45	48	26	15
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	89	103	103	117
Length, mm	29.9	31.6	31.1	35.1
Weight, g	0.14	0.16	0.16	0.16
Fiber denier/shape	4.8/Y	3.4/Y	3.0/Y	4.7/Y
Tipping Paper				
Length, mm	35.0	36.0	36.0	39.0
Color	White	White	Cork	Brown
Ventilation, %	64	27	30	27
<u>Filler</u>				
Total alkaloids, % (DWB)	2.37	2.07	2.10	1.98
Total red. sugars, % (DWB)	6.2	6.8	6.7	6.8
Reconstituted Tob., %	18	22	22	24
Expanded Stems, %	None	3	3	None
Expanded Tob., %	30	12	12	16
Wt. of Tob., g (12.5% OV)	0.742	0.916	0.925	0.743
Rod Length, mm	89.7	87.9	88.8	84.6
Rod Density, g/cc	0.209	0.247	0.245	0.247

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

100-120mm
MENTHOL

2021196220

ULTRA LOW TAR 100 MM FILTER MENTHOL CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>Now</u>	<u>Salem Ultra Lights</u>	<u>Merit Ultra Lights</u>
¹ Sales	1.40	2.80	0.60
<u>Smoke</u>			
FTC Tar, mg/cigt.	2.9	5.0	5.6
Nicotine, mg/cigt.	0.26	0.42	0.51
Puffs/cigt.	7.2	9.3	10.4
Filtration Eff., %	68	67	67
Filler Rod TPM, mg/cigt.	23.4	28.6	29.5
CO, mg/cigt.	4.0	6.5	6.6
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	103	118	108
Static Burn. Time, min.	5.3	6.9	7.2
Length, mm	98.8	98.9	99.5
Circumference, mm	25.0	25.0	24.9
<u>Paper</u>			
Component Type	Cit.	Cit.	Cit.
Component Percent	1.7	1.9	0.5
Porosity, sec.	20	21	20
Permeability, ml/cm ² .min.	28	26	28
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	139	151	137
Length, mm	31.0	31.0	31.6
Weight, g	0.21	0.22	0.21
Fiber denier/shape	2.9/Y	2.5/Y	3.0/Y
Tipping Paper			
Length, mm	35.0	35.0	35.0
Color	White	White	Cork
Ventilation, %	66	58	57
<u>Filler</u>			
Total alkaloids, % (DWB)	2.39	2.04	2.21
Total red. sugars, % (DWB)	5.5	8.3	5.7
Reconstituted Tob., %	15	24	22
Expanded Stems, %	None	None	None
Expanded Tob., %	52	16	20
Wt. of Tob., g (12.5% OV)	0.579	0.779	0.730
Rod Length, mm	67.8	68.0	67.9
Rod Density, g/cc	0.172	0.231	0.218
<u>Menthol, mg/cigt.</u>			
Smoke	0.33	0.32	0.48
Filler	4.7	3.8	4.0
Filter	3.3	1.8	2.5

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196221

ULTRA LOW TAR 100 MM FILTER MENTHOL CIGARETTES
(6 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>B & H DeLuxe Ultra Lights (Box)</u>	<u>Kool Ultra*</u>	
2.45	0.44	¹ Sales
		<u>Smoke</u>
5.8	*	FTC Tar, mg/cigt.
0.50	*	Nicotine, mg/cigt.
8.9	*	Puffs/cigt.
62	57	Filtration Eff., %
25.5	26.4	Filler Rod TPM, mg/cigt.
7.2	*	CO, mg/cigt.
		<u>Cigarette</u>
116	53	Total RTD, mm of H ₂ O
7.1	6.9	Static Burn. Time, min.
98.5	98.8	Length, mm
24.1	24.9	Circumference, mm
		<u>Paper</u>
Cit.	Cit.	Component Type
0.4	0.9	Component Percent
12	13	Porosity, sec.
50	45	Permeability, ml/cm ² .min.
		<u>Filter</u>
CA	CA	Type
135	86	RTD, mm of H ₂ O
31.5	27.1	Length, mm
0.19	0.20	Weight, g
3.0/Y	4.0/Y	Fiber denier/shape
		Tipping Paper
36.0	36.0	Length, mm
White	Cork	Color
52	62	Ventilation, %
		<u>Filler</u>
2.08	2.20	Total alkaloids, % (DWB)
6.2	6.5	Total red. sugars, % (DWB)
22	13	Reconstituted Tob., %
3	10	Expanded Stems, %
19	11	Expanded Tob., %
0.720	0.814	Wt. of Tob., g (12.5% OV)
66.9	71.7	Rod Length, mm
0.233	0.231	Rod Density, g/cc
		<u>Menthol, mg/cigt.</u>
0.43	0.23	Smoke
3.6	3.0	Filler
1.7	1.5	Filter

*The FTC has determined that the present testing methodology does not accurately measure Brown & Williamson's Barclay and Kool Ultra cigarette smoke deliveries. Data are given on page XIX.

2021196222

LOW TAR 100 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	<u>True</u>	<u>Vantage</u>	<u>Belair</u>	<u>Kool Lights</u>
¹ Sales	0.86	0.35	1.22	0.68
<u>Smoke</u>				
FTC Tar, mg/cigt.	6.9	8.2	8.3	8.6
Nicotine, mg/cigt.	0.64	0.60	0.61	0.74
Puffs/cigt.	8.9	8.5	8.4	9.2
Filtration Eff., %	51	62	49	56
Filler Rod TPM, mg/cigt.	27.4	28.7	23.8	27.9
CO, mg/cigt.	6.3	11.9	7.8	9.0
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	58	142	104	120
Static Burn. Time, min.	6.4	6.8	6.4	7.0
Length, mm	98.8	98.9	98.7	98.8
Circumference, mm	24.9	25.0	24.9	24.9
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	2.2	0.9	0.3	0.5
Porosity, sec.	18	14	13	23
Permeability, ml/cm ² .min.	28	39	43	23
<u>Filter</u>				
Type	-	CA	CA	CA
Inner	CA	-	-	-
Outer	PL	-	-	-
RTD, mm of H ₂ O	79	137	76	102
Length, mm	26.8	31.1	30.0	28.5
Weight, g	0.16	0.33	0.17	0.17
Fiber denier/shape	-	2.4/Y	3.6/Y	3.4/Y
Inner	1.8/Y	-	-	-
Outer	-	-	-	-
Tipping Paper				
Length, mm	34.0	35.0	36.0	36.0
Color	White	Cork	White	Cork
Ventilation, %	59	34	36	37
<u>Filler</u>				
Total alkaloids, % (DWB)	2.43	1.78	2.07	2.21
Total red. sugars, % (DWB)	5.4	7.3	6.3	6.9
Reconstituted Tob., %	20	24	10	13
Expanded Stems, %	None	None	13	10
Expanded Tob., %	14	16	11	11
Wt. of Tob., g (12.5% OV)	0.820	0.772	0.775	0.797
Rod Length, mm	72.0	67.8	68.7	70.3
Rod Density, g/cc	0.231	0.228	0.229	0.231
<u>Menthol, mg/cigt.</u>				
Smoke	0.40	0.35	0.31	0.38
Filler	2.9	3.1	2.1	2.8
Filter	1.0	2.0	1.4	1.4

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196223

LOW TAR 100 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>Salem Lights</u>	<u>Newport Lights</u>	<u>Merit</u>	<u>Marlboro Lights (Box)</u>	
7.57	0.43	0.77	-	¹ Sales
				<u>Smoke</u>
8.7	9.2	9.5	9.6	FTC Tar, mg/cigt.
0.67	0.83	0.76	0.77	Nicotine, mg/cigt.
8.9	8.9	9.3	8.9	Puffs/cigt.
59	54	58	54	Filtration Eff., %
28.4	27.8	27.0	25.0	Filler Rod TPM, mg/cigt.
10.1	9.2	10.6	10.1	CO, mg/cigt.
				<u>Cigarette</u>
116	102	116	114	Total RTD, mm of H ₂ O
6.9	6.9	6.8	7.9	Static Burn. Time, min.
98.7	98.8	99.4	98.4	Length, mm
25.0	25.0	24.8	25.0	Circumference, mm
				<u>Paper</u>
Cit.	Cit.	Cit.	Cit.	Component Type
0.5	1.9	1.9	0.6	Component Percent
14	18	14	12	Porosity, sec.
39	30	44	48	Permeability, ml/cm ² .min.
				<u>Filter</u>
CA	CA	CA	CA	Type
-	-	-	-	Inner
-	-	-	-	Outer
115	82	107	98	RTD, mm of H ₂ O
30.9	26.8	31.5	31.4	Length, mm
0.19	0.16	0.19	0.19	Weight, g
2.4/Y	2.8/Y	3.2/Y	3.9/Y	Fiber denier/shape
-	-	-	-	Inner
-	-	-	-	Outer
				Tipping Paper
35.0	34.0	36.0	36.0	Length, mm
White	Cork	Cork	White	Color
40	42	34	27	Ventilation, %
				<u>Filler</u>
1.97	2.37	2.13	2.08	Total alkaloids, % (DWB)
7.9	7.8	6.4	8.1	Total red. sugars, % (DWB)
24	22	22	22	Reconstituted Tob., %
None	None	3	None	Expanded Stems, %
16	11	12	15	Expanded Tob., %
0.756	0.821	0.804	0.774	Wt. of Tob., g (12.5% OV)
67.8	72.1	67.9	67.0	Rod Length, mm
0.224	0.230	0.243	0.232	Rod Density, g/cc
				<u>Menthol, mg/cigt.</u>
0.44	0.40	0.56	0.47	Smoke
3.0	2.3	3.5	2.8	Filler
1.5	1.3	2.0	2.3	Filter

2021196224

LOW TAR 100 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

	Kent Golden Lights	Ritz (Box)	Satin
¹ Sales	0.19	0.23	0.14
<u>Smoke</u>			
FTC Tar, mg/cigt.	9.6	10.3	10.3
Nicotine, mg/cigt.	0.81	0.74	0.85
Puffs/cigt.	9.1	8.9	8.0
Filtration Eff., %	53	54	53
Filler Rod TPM, mg/cigt.	27.9	27.9	28.5
CO, mg/cigt.	9.8	11.0	11.4
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	111	121	118
Static Burn. Time, min.	6.7	7.6	6.8
Length, mm	98.7	97.9	98.9
Circumference, mm	24.9	24.2	24.9
<u>Paper</u>			
Component Type	Cit.	Cit.	Cit.
Component Percent	2.0	0.5	1.8
Porosity, sec.	18	14	18
Permeability, ml/cm ² .min.	30	43	29
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	84	96	86
Length, mm	26.8	31.0	26.8
Weight, g	0.15	0.18	0.15
Fiber denier/shape	3.0/Y	4.2/Y	2.6/Y
Tipping Paper			
Length, mm	34.0	35.0	34.0
Color	White	White	White
Ventilation, %	36	29	28
<u>Filler</u>			
Total alkaloids, % (DWB)	2.37	1.78	2.38
Total red. sugars, % (DWB)	8.0	7.4	7.0
Reconstituted Tob., %	22	24	22
Expanded Stems, %	None	None	None
Expanded Tob., %	11	16	11
Wt. of Tob., g (12.5% OV)	0.823	0.751	0.818
Rod Length, mm	71.9	66.9	72.1
Rod Density, g/cc	0.232	0.240	0.229
<u>Menthol, mg/cigt.</u>			
Smoke	0.43	0.68	0.35
Filler	2.5	3.8	2.1
Filter	1.2	1.7	1.2

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196225

LOW TAR 100 MM FILTER MENTHOL CIGARETTES
(15 MG TAR OR LESS)
(Brands Ranked by FTC Tar, left to right)

<u>B & H</u> <u>Lights</u>	<u>Salem</u>	<u>B & H</u>	
2.55	6.40	5.05	¹ Sales
			<u>Smoke</u>
10.4	15.4	15.4	FTC Tar, mg/cigt.
0.85	1.02	1.11	Nicotine, mg/cigt.
10.1	9.4	10.2	Puffs/cigt.
58	49	50	Filtration Eff., %
30.6	30.0	29.4	Filler Rod TPM, mg/cigt.
11.2	15.1	14.9	CO, mg/cigt.
			<u>Cigarette</u>
125	118	119	Total RTD, mm of H ₂ O
7.8	7.5	7.5	Static Burn. Time, min.
99.4	99.3	99.6	Length, mm
25.0	25.0	24.9	Circumference, mm
			<u>Paper</u>
Cit.	Cit.	Cit.	Component Type
0.5	0.5	0.6	Component Percent
13	21	15	Porosity, sec.
49	29	49	Permeability, ml/cm ² .min.
			<u>Filter</u>
CA	CA	CA	Type
111	72	76	RTD, mm of H ₂ O
31.4	27.4	27.4	Length, mm
0.19	0.16	0.16	Weight, g
2.6/Y	3.5/Y	3.7/Y	Fiber denier/shape
			Tipping Paper
36.0	32.0	32.0	Length, mm
White	White	White	Color
31	17	14	Ventilation, %
			<u>Filler</u>
2.13	2.01	2.09	Total alkaloids, % (DWB)
6.7	7.2	6.8	Total red. sugars, % (DWB)
22	24	22	Reconstituted Tob., %
3	None	3	Expanded Stems, %
12	16	12	Expanded Tob., %
0.813	0.837	0.858	Wt. of Tob., g (12.5% OV)
68.1	71.9	72.2	Rod Length, mm
0.241	0.234	0.241	Rod Density, g/cc
			<u>Menthol, mg/cigt.</u>
0.57	0.51	0.69	Smoke
3.5	2.4	3.2	Filler
2.0	1.2	1.0	Filter

2021196226

FULL FLAVORED 100 MM FILTER MENTHOL CIGARETTES
(16 MG TAR OR MORE)
(Brands Ranked by FTC Tar, left to right)

	<u>Kool</u>	<u>Newport</u>
¹ Sales	5.75	3.31
<u>Smoke</u>		
FTC Tar, mg/cigt.	15.9	16.9
Nicotine, mg/cigt.	1.16	1.21
Puffs/cigt.	8.6	8.5
Filtration Eff., %	48	44
Filler Rod TPM, mg/cigt.	27.0	29.9
CO, mg/cigt.	15.9	18.6
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	127	127
Static Burn. Time, min.	6.8	7.4
Length, mm	98.9	98.9
Circumference, mm	24.9	24.9
<u>Paper</u>		
Component Type	Cit.	Cit.
Component Percent	0.4	0.8
Porosity, sec.	12	26
Permeability, ml/cm ² .min.	50	18
<u>Filter</u>		
Type	CA	CA
RTD, mm of H ₂ O	68	59
Length, mm	26.7	27.0
Weight, g	0.15	0.16
Fiber denier/shape	3.8/Y	4.6/Y
Tipping Paper		
Length, mm	32.0	34.0
Color	Cork	Cork
Ventilation, %	None	None
<u>Filler</u>		
Total alkaloids, % (DWB)	2.38	2.37
Total red. sugars, % (DWB)	6.6	8.1
Reconstituted Tob., %	13	22
Expanded Stems, %	10	None
Expanded Tob., %	11	11
Wt. of Tob., g (12.5% OV)	0.816	0.823
Rod Length, mm	72.2	72.0
Rod Density, g/cc	0.230	0.231
<u>Menthol, mg/cigt.</u>		
Smoke	0.56	0.46
Filler	2.6	1.8
Filter	1.1	0.9

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196227

120 MM FILTER MENTHOL CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	Carlton	Virginia Slims Lights (Box)	Saratoga (Box)	More
¹ Sales	0.59	1.35	0.40	2.38
<u>Smoke</u>				
FTC Tar, mg/cigt.	6.1	13.2	14.4	17.0
Nicotine, mg/cigt.	0.58	1.04	1.13	1.27
Puffs/cigt.	11.2	12.5	12.8	12.6
Filtration Eff., %	43	51	51	49
Filler Rod TPM, mg/cigt.	19.9	27.9	30.5	31.8
CO, mg/cigt.	4.8	13.1	13.5	20.7
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	93	139	139	168
Static Burn. Time, min.	5.8	8.0	7.8	8.3
Length, mm	119.7	119.5	119.1	119.7
Circumference, mm	22.4	23.1	23.1	21.2
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.9	0.6	0.6	0.5
Color	White	White	White	Brown
Porosity, sec.	12	14	18	35
Permeability, ml/cm ² .min.	47	46	33	14
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	86	102	105	117
Length, mm	29.8	31.6	31.5	35.0
Weight, g	0.14	0.16	0.16	0.16
Fiber denier/shape	4.8/Y	3.6/Y	3.0/Y	4.9/Y
Tipping Paper				
Length, mm	35.0	36.0	36.0	39.0
Color	White	White	Cork	Brown
Ventilation, %	64	27	29	31
<u>Filler</u>				
Total alkaloids, % (DWB)	2.35	2.11	2.08	2.20
Total red. sugars, % (DWB)	6.0	7.4	7.1	7.3
Reconstituted Tob., %	18	22	22	24
Expanded Stems, %	None	3	3	None
Expanded Tob., %	30	12	12	16
Wt. of Tob., g (12.5% OV)	0.741	0.918	0.919	0.732
Rod Length, mm	89.9	87.9	87.6	84.7
Rod Density, g/cc	0.207	0.246	0.246	0.241
<u>Menthol, mg/cigt.</u>				
Smoke	0.56	0.59	0.64	0.65
Filler	4.9	3.2	3.3	2.8
Filter	1.4	1.4	1.5	0.8

100mm
SLIM

2021196228

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

100 MM FILTER SLIM CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	Virginia Slims Ultra Lights (Box)	Virginia Slims Lights (Box)	Capri (Box)	More Lights (Box)	Virginia Slims
¹ Sales	1.40	2.89	1.44	0.45	2.90
<u>Smoke</u>					
FTC Tar, mg/cigt.	5.9	8.4	9.1	10.2	14.0
Nicotine, mg/cigt.	0.48	0.68	0.74	0.81	1.08
Puffs/cigt.	9.3	8.9	8.9	9.4	9.7
Filtration Eff., %	58	54	33	51	44
Filler Rod TPM, mg/cigt.	24.2	26.5	21.4	27.7	27.0
CO, mg/cigt.	5.6	8.1	6.0	10.0	12.0
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	107	121	146	107	123
Static Burn. Time, min.	6.6	7.1	7.2	7.6	7.6
Length, mm	98.5	98.6	97.0	97.9	99.4
Circumference, mm	23.1	23.1	17.1	22.7	23.1
<u>Paper</u>					
Component Type	Cit.	Cit.	Cit.	Cit.	Cit.
Component Percent	2.4	0.8	0.3	1.0	0.4
Porosity, sec.	12	14	23	14	16
Permeability, ml/cm ² .min.	48	48	29	40	46
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	134	114	107	99	82
Length, mm	31.6	31.5	26.9	30.9	27.6
Weight, g	0.17	0.16	0.08	0.15	0.15
Fiber denier/shape	3.3/Y	3.1/Y	5.7/Y	3.4/Y	3.5/Y
Tipping Paper					
Length, mm	36.0	36.0	32.0	35.0	32.0
Color	White	White	White	Deep Tan	White
Ventilation, %	58	36	53	44	19
<u>Filler</u>					
Total alkaloids, % (DWB)	2.10	2.09	2.12	1.88	2.10
Total red. sugars, % (DWB)	6.9	6.4	6.5	6.7	6.9
Reconstituted Tob., %	22	22	18	24	22
Expanded Stems, %	3	3	None	None	3
Expanded Tob., %	19	12	None	16	12
Wt. of Tob., g (12.5% OV)	0.654	0.688	0.437	0.653	0.736
Rod Length, mm	66.8	67.1	70.1	67.0	71.8
Rod Density, g/cc	0.230	0.241	0.267	0.237	0.242

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196229

100 MM FILTER SLIM MENTHOL CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	Virginia Slims Ultra Lts. (Box)	Virginia Slims Lts. (Box)	Salem Slim Lights (Box)	More Lights (Box)	Capri (Box)	Virginia Slims
¹ Sales	1.20	3.19	2.54	1.30	0.34	2.50
<u>Smoke</u>						
FTC Tar, mg/cigt.	5.2	8.3	9.0	9.4	9.6	14.8
Nicotine, mg/cigt.	0.44	0.67	0.69	0.75	0.73	1.11
Puffs/cigt.	8.9	8.8	8.5	8.9	9.1	9.9
Filtration Eff., %	58	55	50	30	50	43
Filler Rod TPM, mg/cigt.	25.0	25.9	24.6	16.6	26.2	26.4
CO, mg/cigt.	5.0	9.8	9.8	6.1	10.8	12.5
<u>Cigarette</u>						
Total RTD, mm of H ₂ O	108	126	114	168	104	125
Static Burn. Time, min.	6.6	7.2	6.7	7.8	7.6	7.4
Length, mm	98.6	98.8	97.8	97.0	98.1	99.6
Circumference, mm	23.0	23.1	22.7	17.1	22.7	23.1
<u>Paper</u>						
Component Type	Cit.	Cit.	Cit.	Cit.	Cit.	Cit.
Component Percent	2.4	2.2	0.9	0.2	1.0	1.1
Porosity, sec.	13	12	15	23	16	13
Permeability, ml/cm ² .min.	44	47	39	29	33	43
<u>Filter</u>						
Type	CA	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	131	117	95	110	95	81
Length, mm	31.5	31.5	31.0	26.9	30.9	27.5
Weight, g	0.17	0.17	0.15	0.08	0.15	0.15
Fiber denier/shape	3.3/Y	3.2/Y	3.4/Y	3.2/Y	3.2/Y	3.4/Y
Tipping Paper						
Length, mm	36.0	36.0	35.0	35.0	32.0	32.0
Color	White	White	White	Deep Tan	White	White
Ventilation, %	58	36	40	50	44	19
<u>Filler</u>						
Total alkaloids, % (DWB)	2.07	2.08	1.97	1.90	1.79	2.10
Total red. sugars, % (DWB)	6.4	6.8	7.9	6.9	7.0	6.9
Reconstituted Tob., %	22	22	24	10	24	22
Expanded Stems, %	3	3	None	None	None	3
Expanded Tob., %	19	12	20	None	16	12
Wt. of Tob., g (12.5% OV)	0.655	0.684	0.637	0.431	0.659	0.738
Rod Length, mm	67.0	67.2	66.8	70.1	67.2	72.1
Rod Density, g/cc	0.231	0.240	0.232	0.264	0.240	0.242
<u>Menthol, mg/cigt.</u>						
Smoke	0.39	0.51	0.62	0.72	0.57	0.68
Filler	3.3	3.1	3.6	3.0	3.2	2.8
Filter	1.9	1.7	1.5	1.0	1.6	1.3

CHARCOAL

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

2021196230

85 MM CHARCOAL FILTER CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	<u>Tareyton Lights</u>	<u>B & H Multifilter</u>	<u>Lark Lights</u>	<u>Tareyton</u>
¹ Sales	0.12	0.22	0.36	1.95
<u>Smoke</u>				
FTC Tar, mg/cigt.	5.3	11.3	11.6	12.9
Nicotine, mg/cigt.	0.42	0.85	0.89	0.90
Puffs/cigt.	6.7	8.9	6.8	8.3
Filtration Eff., %	54	50	47	52
Filler Rod TPM, mg/cigt.	23.1	32.6	24.0	26.6
Gas Phase Smoke Index, % Reduction	55	50	23	21
CO, mg/cigt.	5.5	10.6	10.5	14.2
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	93	91	109	118
Static Burn. Time, ² min.	6.2	8.2	6.4	7.0
Length, mm	84.8	83.9	84.5	85.0
Circumference, mm	25.0	24.9	24.8	25.0
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	0.8	0.6	1.1	0.7
Porosity, sec.	13	18	6**	12
Permeability, ml/cm ² .min.	47	29	179	49
<u>Filter</u>				
Type	-	-	-*	-
Inner	C in Paper	C-CA	CA	C in Paper
Outer	CA	CA-PL	CA	CA
RTD, mm of H ₂ O	74	73	64	58
Length, mm	26.9	25.0	24.8	20.0
Weight, g	0.20	0.34	0.17	0.17
Fiber denier/shape	-	-	-	-
Inner	-	3.4/I	3.6/Y	-
Outer	3.0/Y	3.2/Y	3.8/Y	4.2/Y
Carbon, mg/plug	8	39	54	32
Tipping Paper				
Length, mm	32.0	32.0	30.0	24.0
Color	Cork	White	Cork	Cork
Ventilation, %	47	29	None	None
<u>Filler</u>				
Total alkaloids, % (DWB)	2.11	1.85	2.15	2.14
Total red. sugars, % (DWB)	7.8	6.1	8.1	8.1
Reconstituted Tob., %	18	22	14	18
Expanded Stems, %	4	3	4	4
Expanded Tob., %	41	12	23	17
Wt. of Tob., g (12.5% OV)	0.575	0.692	0.617	0.766
Rod Length, mm	57.8	58.9	59.7	65.0
Rod Density, g/cc	0.200	0.238	0.211	0.237

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

*Space containing carbon granules.

**These cigarettes are perforated.

2021196231

100 MM CHARCOAL FILTER CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	Tareyton <u>Long Lights</u>	Parliament <u>Lights</u>	Lark <u>Lights</u>	Tareyton
¹ Sales	0.26	2.00	0.29	1.77
<u>Smoke</u>				
FTC Tar, mg/cigt.	8.1	11.5	12.3	13.3
Nicotine, mg/cigt.	0.67	0.95	1.01	0.92
Puffs/cigt.	10.3	9.6	8.2	9.0
Filtration Eff., %	59	56	49	57
Filler Rod TPM, mg/cigt.	25.8	30.6	23.2	26.0
Gas Phase Smoke Index, % Reduction	50	52	24	25
CO, mg/cigt.	7.9	12.0	11.4	15.2
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	104	121	125	135
Static Burn. Time, min.	7.0	8.3	6.6	7.0
Length, mm	99.9	99.4	98.6	99.5
Circumference, mm	24.9	24.9	24.7	24.9
<u>Paper</u>				
Component Type	Cit.	Cit.	Cit.	Cit.
Component Percent	1.0	0.5	0.5	0.9
Porosity, sec.	13	13	6**	13
Permeability, ml/cm ² .min.	42	43	203	48
<u>Filter</u>				
Type	-	-	-*	-
Inner	C in Paper	C-CA	CA	C in Paper
Outer	CA	CA	CA	CA
RTD, mm of H ₂ O	89	112	75	67
Length, mm	27.0	30.0 ²	29.7	27.0
Weight, g	0.22	0.22	0.19	0.20
Fiber denier/shape	-	-	-	-
Inner	-	4.8/X	3.9/Y	-
Outer	3.2/I	3.2/Y	3.8/Y	4.7/Y
Carbon, mg/plug	7	55	52	30
Tipping Paper				
Length, mm	32.0	36.0	35.0	32.0
Color	Cork	White	Cork	Cork
Ventilation, %	46	31	None	None
<u>Filler</u>				
Total alkaloids, % (DWB)	2.14	2.16	2.15	2.13
Total red. sugars, % (DWB)	8.2	7.1	8.3	8.2
Reconstituted Tob., %	18	22	14	18
Expanded Stems, %	4	3	4	4
Expanded Tob., %	17	12	23	17
Wt. of Tob., g (12.5% OV)	0.826	0.810	0.715	0.840
Rod Length, mm	72.9	69.4	68.9	72.6
Rod Density, g/cc	0.230	0.236	0.214	0.236

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

²The reported value includes the recessed portion.

*Space containing carbon granules.

**These cigarette papers are perforated.

80mm FILTER
70-85mm NF

2021196232

80 MM FILTER CIGARETTES (BOX)
(Brands Ranked by FTC Tar, left to right)

	<u>Camel</u> <u>Lights</u>	<u>Winston</u> <u>Lights</u>	<u>Parliament</u> <u>Lights</u>	<u>Kent</u>	<u>Winston</u>	<u>Marlboro</u>
¹ Sales	1.03	1.01	1.77	0.14	2.65	35.45
<u>Smoke</u>						
FTC Tar, mg/cigt.	8.8	9.0	9.2	10.8	15.5	16.4
Nicotine, mg/cigt.	0.60	0.62	0.75	0.76	0.96	1.13
Puffs/cigt.	7.1	7.2	7.4	7.3	7.6	8.6
Filtration Eff., %	59	58	55	51	45	45
Filler Rod TPM, mg/cigt.	30.3	30.4	30.0	26.5	28.7	31.0
CO, mg/cigt.	10.9	11.1	9.6	12.6	15.1	13.8
<u>Cigarette</u>						
Total RTD, mm of H ₂ O	145	144	117	137	122	107
Static Burn. Time, min.	7.4	7.6	7.8	7.1	7.6	8.0
Length, mm	79.1	78.9	79.0	79.5	78.8	79.1
Circumference, mm	25.0	25.0	24.9	24.9	25.0	25.0
<u>Paper</u>						
Component Type	Cit.	Cit.	Cit.	Cit.	Cit.	Cit.
Component Percent	0.4	0.4	0.6	0.6	0.4	0.4
Porosity, sec.	19	22	12	15	15	19
Permeability, ml/cm ² .min.	29	25	50	37	40	31
<u>Filter</u>						
Type	CA	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	118	117	118	90	71	68
Length, mm	19.0	19.0	24.9 ²	21.0	19.0	19.0
Weight, g	0.14	0.14	0.13	0.14	0.13	0.12
Fiber denier/shape	2.7/Y	2.0/Y	2.4/Y	2.8/Y	2.6/Y	3.1/Y
Tipping Paper						
Length, mm	27.0	27.0	30.0	25.0	23.0	23.0
Color	Cork	Cork	White	White	Cork	Cork
Ventilation, %	21	23	34	18	None	11
<u>Filler</u>						
Total alkaloids, % (DWB)	1.81	1.78	2.15	2.04	1.84	2.07
Total red. sugars, % (DWB)	6.8	7.3	6.5	6.5	6.8	7.0
Reconstituted Tob., %	24	24	22	22	24	22
Expanded Stems, %	None	None	3	None	None	3
Expanded Tob., %	16	16	12	11	16	12
Wt. of Tob., g (12.5% OV)	0.663	0.664	0.629	0.693	0.711	0.709
Rod Length, mm	60.0	60.0	54.1	58.5	59.8	60.0
Rod Density, g/cc	0.222	0.223	0.236	0.241	0.240	0.238

¹ Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

² The reported value includes the recessed portion.

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NON-FILTER CIGARETTES
(Brands Ranked by FTC Tar, left to right)

	<u>Camel</u>	<u>Philip Morris</u>	<u>Lucky Strike</u>	<u>Chester-field King</u>	<u>Pall Mall</u>	<u>P.M. Commander</u>
¹ Sales	7.95	0.06	2.68	1.11	11.87	0.36
<u>Smoke</u>						
FTC Tar, mg/cigt.	19.8	20.4	23.1	20.2	22.0	23.1
Nicotine, mg/cigt.	1.33	1.35	1.49	1.37	1.48	1.53
Puffs/cigt.	6.8	7.7	8.3	8.8	9.7	9.0
Filler Rod TPM, mg/cigt.	30.5	30.7	34.8	27.7	26.4	28.9
CO, mg/cigt.	12.3	11.6	15.1	13.0	13.8	13.9
<u>Cigarette</u>						
Total RTD, mm of H ₂ O	67	56	66	77	76	64
Static Burn. Time, min.	7.4	8.3	9.9	7.5	7.9	7.7
Length, mm	68.9	70.1	68.9	84.6	84.0	84.0
Circumference, mm	25.0	25.0	25.1	25.0	24.9	24.9
<u>Paper</u>						
Component Type	Cit.	Cit.	Phos.	Cit.	Cit.	Cit.
Component Percent	0.8	0.6	0.0	0.5	0.7	1.2
Porosity, sec.	21	12	28	12	16	12
Permeability, ml/cm ² .min.	23	45	16	45	34	49
<u>Filler</u>						
Total alkaloids, % (DWB)	2.17	2.11	2.02	2.04	2.07	2.15
Total red. sugars, % (DWB)	7.4	8.4	9.9	10.3	10.1	9.0
Reconstituted Tob., %	15	18	18	9	18	18
Expanded Stems, %	None	3	4	4	4	3
Expanded Tob., %	16	13	11	18	11	13
Wt. of Tob., g (12.5% OV)	0.791	0.849	0.878	0.972	1.043	0.996
Rod Density, g/cc	0.230	0.245	0.255	0.231	0.252	0.240

¹Preliminary year-end sales in billions of cigarettes - Maxwell Report - October, 1988.

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**BLEND COMPONENTS
PERCENT BY WEIGHT**

	<u>Reconstituted Tobacco</u>	<u>Expanded Stems</u>	<u>Expanded Tobacco</u>
<u>PHILIP MORRIS</u>			
Alpine 85	22	3	12
B & H 100 (plain & menthol)			
B & H Lights 100 (plain & menthol)			
B & H Multifilter 85 (plain)			
Marlboro 80,85,100			
Marlboro Lights 85,100			
Merit 85,100 (plain & menthol)			
Parliament Lights 80,85,100			
Saratoga 120 (plain & menthol)			
Va. Slims 100 (plain & menthol)			
Va. Slims Lights 100 (plain & men.)			
Va. Slims Lights 120 (plain & men.)			
Merit Ultra Lights 85,100 (plain & men.)	22	None	20
Marlboro Menthol 85	22	None	15
Marlboro Lights Menthol 85, 100 (Box)			
B & H DeLuxe Ultra Lts. 100 (plain & men.)	22	3	19
Va. Slims Ultra Lights 100 (plain & men.)			
Philip Morris 70 & 85 (NF)	18	3	13
Cambridge 100	22	3	15
Cambridge Lights 85 & 100 (plain & men.)			
Cambridge Full Flavor 85 & 100			
<u>BROWN & WILLIAMSON</u>			
Barclay 85,100	14	7	11
Kool Milds 80,85	13	10	11
Kool 85,100			
Kool Lights 85,100			
Kool Ultra 85,100			
Belair 85,100	10	13	11
Raleigh 85,100			
Viceroy 85,100	12	5	10
Raleigh Lights 85, 100	16	5	None
Viceroy Lights 85, 100			
Capri 100	18	None	None
Capri Menthol 100	10	None	None
<u>LORILLARD</u>			
Kent 80,85,100	22	None	11
Kent Golden Lights 85,100 (plain & men.)			
Newport 85,100			
Newport Lights 85,100			
Old Gold 85			
Satin 100 (plain & menthol)			
True 85,100 (plain & menthol)	20	None	14
Kent III 85,100	15	None	25

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**BLEND COMPONENTS
PERCENT BY WEIGHT**

	<u>Reconstituted Tobacco</u>	<u>Expanded Stems</u>	<u>Expanded Tobacco</u>
<u>REYNOLDS</u>			
Salem Ultra Lights 85	24	None	28
Doral Full Flavor 85,100	24	None	25
Doral Lights 85,100 (plain & men.)			
Doral Ultra Lights 100			
Winston Ultra Lights 85,100			
Vantage Ultra Lights 85,100			
Salem Slim Lights 100	24	None	20
Vantage 100			
Camel 85	24	None	16
Camel Lights 80,85,100			
More 120 (plain & menthol)			
More Lights 100 (plain & menthol)			
Ritz 100 (plain & menthol)			
Salem 85,100			
Salem Lights 85,100			
Salem Ultra Lights 100			
Vantage 85 (plain & menthol)			
Vantage Menthol 100			
Winston 80,85,100			
Winston Lights 80,85,100			
Now 85,100 (plain & menthol)	15	None	52
Camel 70 (NF)	15	None	16
<u>AMERICAN</u>			
Carlton 80,85,100 (plain & men.)	18	None	46
Carlton 120 (plain & menthol)	18	None	30
Lucky Strike 85	18	None	11
Tareyton Lights 85	18	4	41
Tareyton 85,100	18	4	17
Tareyton Long Lights 100			
Lucky Strike 70 (NF)	18	4	11
Pall Mall 85 (NF)			
Pall Mall 100			
<u>LIGGETT</u>			
Lark Lights 85,100	14	4	23
L & M 85,100			
Chesterfield 85 (NF)	9	4	18

These data are based on the average values for the brands manufactured in January through December, 1988.

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MINOR
BRANDS

MINOR BRANDS

Brand	Cigt. Length, mm	FTC Tar, mg/cigt.	Nicotine, mg/cigt.	Puffs/ cigt.	CO, mg/cigt.
<u>FILTER - PLAIN</u>					
Now 80 (Box)	78.7	0.0	0.00	6.3	0.4
Kent Golden Lights 80 (Box)	80.0	8.0	0.67	6.9	9.0
L & M 80 (Box) -	81.0	13.5	1.11	7.8	12.1
Camel 80 (Box)	78.8	15.4	1.00	8.0	16.6
Barclay 80 (Box)	80.0	*	*	*	*
Carlton Ultra 85 (Box)	83.0	0.0	0.00	6.0	0.0
Triumph 85	83.7	4.1	0.35	7.0	3.7
Lucky Strike Lights 85	82.8	7.9	0.66	8.1	7.3
Old Gold Lights 85	84.0	8.3	0.75	7.1	9.7
Century Lights 85 25's	83.5	8.9	0.65	7.8	10.2
PLAYERS LIGHTS 85 25's	83.9	10.5	0.82	8.4	10.8
Richland Lights 85's 25's	84.1	11.0	0.86	8.1	11.9
Lucky Strike 85 (Box)	82.7	11.2	0.86	8.2	11.6
PLAYERS 85 (BOX)	83.1	11.8	0.90	7.9	11.9
Pall Mall 85	84.9	13.0	0.99	8.9	11.9
Century 85 25's	83.7	14.3	0.93	6.7	15.9
B & H 85 (BOX)	84.7	15.1	1.28	9.6	11.9
Richland 85 25's	83.8	15.2	1.10	8.4	14.4
Kent III 100 (Box)	99.2	5.2	0.48	8.4	6.6
Triumph 100	99.2	5.8	0.49	8.4	5.6
Lucky Strike Lights 100	99.6	9.3	0.80	10.3	8.8
Kent Golden Lights 100 (Box)	98.8	9.5	0.91	9.0	9.6
Pall Mall Lights 100	99.9	9.8	0.82	9.8	12.6
Silva Thins 100 (Box)	99.8	10.8	0.87	9.2	9.1
Lucky Strike 100	99.7	10.8	0.90	10.4	10.6
Century Lights 100 25's	98.0	10.9	0.80	8.5	11.7
PLAYERS LIGHTS 100 25's	99.5	11.4	0.89	10.2	12.6
Eve Slim Lights 100 (Box)	97.9	11.8	0.98	7.6	10.7
Richland Lights 100's 25's	98.9	12.1	0.91	9.6	14.4
HI-LITE 100 (BOX)	98.7	12.9	1.07	10.7	13.4
St. Moritz 100	99.8	13.5	1.07	8.6	15.1
PLAYERS 100 (BOX)	98.3	14.0	1.03	9.5	12.1
B & H (BOX)	98.4	15.5	1.16	9.8	15.1
P.M. INTERNATIONAL 100 (BOX)	98.3	16.0	1.12	10.3	14.9
Century 100 25's	97.9	16.4	1.08	8.5	19.7
MARLBORO 100 (BOX)	98.5	16.4	1.18	10.2	16.0
Richland 100 25's	98.9	16.6	1.26	10.7	15.6
Old Gold 100	98.6	18.2	1.46	8.7	18.4
Eve Lights 120 (Box)	119.5	12.5	1.11	13.8	11.3
Max 120	119.2	15.9	1.32	10.3	16.4
Tall 120	119.7	19.6	1.62	15.2	17.4
<u>FILTER - CHARCOAL</u>					
Lark 85	84.8	12.7	1.11	7.4	13.5
Lark 100	98.7	13.9	1.18	8.7	13.7

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¹Filter Type: CA = Cellulose Acetate, C = Carbon

*The FTC has determined that the present testing methodology does not accurately measure Brown & Williamson's Barclay and Kool Ultra cigarette smoke deliveries. Data are given on page XIX.

MINOR BRANDS

Total RTD, mm of H ₂ O	Ventila- tion, %	Circum- ference, mm	Porosity, sec.	Color	Tipping Paper Length, mm	Filter Length, mm	Filter Type ¹
103	95	25.0	14	White	32.0	27.6	CA
107	33	24.8	19	White	30.0	25.0	CA
107	None	24.9	5**	White	26.0	21.1	CA
125	None	24.9	14	Cork	23.0	19.0	CA
47	83	24.9	22	Cork	32.0	27.0	CA
104	97	25.0	6**	White	36.0	32.0	CA
103	62	24.9	18	Cork	32.0	25.0	CA/CA
138	28	24.9	13	Cork	30.0	24.8	CA
102	36	25.0	18	Cork	32.0	24.9	CA
141	29	24.2	22	Cork	29.0	25.8	CA
124	24	25.0	16	White	31.0	26.9	CA
134	18	24.6	21	White	32.0	26.9	CA
128	21	25.1	20	Cork	30.0	25.1	CA
112	21	24.9	24	Cork	32.0	27.0	CA
122	None	25.0	12	Cork	24.0	20.1	CA
153	None	24.2	21	Cork	27.0	23.0	CA
113	24	24.8	17	White	30.0	23.8	CA
130	8	25.0	22	Cork	26.0	21.0	CA
118	53	24.9	18	White	34.0	26.9	CA/CA
121	48	24.9	18	Cork	34.0	26.9	CA/CA
122	36	24.5	13	Cork	32.0	27.0	CA
97	43	25.0	18	White	34.0	26.8	CA
133	28	24.5	12	White	36.0	27.0	CA
126	23	22.4	14	White	32.0	27.0	CA
126	34	24.5	12	Cork	32.0	26.9	CA
133	24	24.2	22	Cork	35.0	30.9	CA
128	29	24.9	24	White	36.0	31.5	CA
122	None	22.8	5**	White	35.0	29.9	CA
146	16	24.9	13	White	36.0	26.9	CA
120	25	24.8	15	Cork	31.5	27.4	CA
109	None	25.0	8**	White	32.0	27.0	CA
114	20	24.1	16	Cork	36.0	31.5	CA
120	12	24.8	17	White	32.0	27.5	CA
123	14	24.9	16	Cork	32.0	27.5	CA
154	None	24.2	22	Cork	35.0	31.0	CA
119	12	25.0	15	Cork	32.0	27.4	CA
127	16	24.9	20	Cork	32.0	26.7	CA
116	None	24.9	27	Cork	34.0	27.0	CA
111	57	21.1	44	White	35.0	29.8	CA
139	20	22.0	30	White	35.0	29.9	CA
131	35	22.4	34	White	35.0	30.0	CA
116	None	24.8	5**	Cork	30.0	24.9	CA/C/CA
114	None	24.7	5**	Cork	35.0	29.7	CA/C/CA

**These cigarette papers are perforated.

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MINOR BRANDS

Brand	Cigt. Length, mm	FTC Tar, mg/cigt.	Nicotine, mg/cigt.	Puffs/ cigt.	CO, mg/cigt.	Smoke Menthol, mg/cigt.
<u>FILTER - MENTHOL</u>						
Kool Menthol (NF)	70.0	19.7	1.28	6.5	14.4	0.62
Newport Lights Menthol 80 (Box)	79.6	8.1	0.75	6.7	8.0	0.31
Kool Menthol 80 (Box)	79.7	14.5	0.99	7.2	15.6	0.50
Newport Menthol 80 (Box)	79.3	14.9	1.12	7.4	16.2	0.41
Triumph Menthol 85	84.0	4.0	0.35	6.9	4.1	0.28
PLAYERS LIGHTS MENTHOL 85 25's	84.3	8.9	0.68	8.1	9.8	0.46
PLAYERS MENTHOL 85 (BOX)	82.8	11.4	0.84	8.1	11.7	0.57
Richland Menthol 85 25's	83.6	14.8	1.00	7.2	14.6	0.54
Newport Menthol 85 25's	84.3	16.1	1.19	7.8	17.0	0.46
Carlton Menthol 100 (Box)	98.6	1.0	0.09	8.3	0.8	0.16
Carlton Menthol 100	99.7	5.0	0.42	8.1	5.3	0.35
Triumph Menthol 100	99.0	5.9	0.52	8.2	5.7	0.38
Newport Lights Men. 100 (Box)	98.8	9.2	0.87	9.0	8.6	0.39
Lucky Strike Menthol 100	99.5	11.0	0.93	10.1	11.1	0.70
Kool Milds Menthol 100	98.8	11.1	0.91	8.4	12.2	0.47
PLAYERS LIGHTS MENTHOL 100 25's	99.7	11.4	0.86	10.3	12.9	0.58
Silva Thins Menthol 100 (Box)	99.8	11.4	0.97	9.6	10.0	0.45
Eve Slim Lights Men. 100 (Box)	97.5	11.7	0.95	7.6	10.1	0.40
Kent Menthol 100	99.3	12.9	0.99	8.9	14.9	0.37
PLAYERS MENTHOL 100 (BOX)	98.3	13.4	0.98	9.4	11.4	0.67
St. Moritz Menthol 100	99.4	13.9	0.98	8.6	14.0	0.46
B & H (BOX)	98.7	15.5	1.12	10.2	14.8	0.64
P.M. INTER. MEN. 100 (Box)	98.6	16.3	1.11	10.4	14.8	0.57
Spring Menthol 100	99.3	17.6	1.41	8.9	17.3	0.50
Newport 100's 25's	98.7	18.1	1.38	8.7	18.0	0.49
Eve Lights Menthol 120 (Box)	119.9	13.0	1.10	13.8	10.6	0.68
Max Menthol 120	119.3	16.1	1.30	10.2	15.4	0.51
Tall Menthol 120	119.5	17.7	1.54	15.6	18.8	0.82
<u>NON-FILTER</u>						
Chesterfield	69.4	17.9	1.21	7.1	13.3	-
PLAYERS (BOX)	70.0	23.0	1.61	8.4	12.6	-
Raleigh (NF)	83.9	20.7	1.28	8.3	16.7	-
H. Tareyton	83.9	22.0	1.44	8.9	14.2	-
ENGLISH OVALS (BOX)	84.3	22.4	1.76	10.6	12.4	-
Old Gold	84.6	23.6	1.73	8.9	17.6	-

¹ Filter Type: CA = Cellulose Acetate, C = Carbon

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MINOR BRANDS

Total RTD, mm of H ₂ O	Ventila- tion, %	Circum- ference, mm	Porosity, sec.	Color	Tipping Paper Length, mm	Filter Length, mm	Filter Type ¹
68	None	25.0	21	Cork	11	-	-
109	28	25.0	17	Cork	30.0	25.0	CA
128	None	25.0	16	Cork	23.0	19.0	CA
123	None	25.0	26	Cork	25.0	21.0	CA
106	58	24.9	18	Cork	32.0	25.0**	CA/CA
120	28	25.0	17	White	31.0	26.9	CA
113	19	25.1	23	Cork	32.0	27.1	CA
117	None	24.9	18	Cork	26.0	20.9	CA
122	None	24.9	26	Cork	25.0	21.0	CA
83	83	24.5	12	White	35.0	26.8	CA
117	55	24.5	19	White	32.0	26.9	CA
118	44	25.0	19	Cork	34.0	26.8	CA
107	39	25.1	17	Cork	34.0	26.7	CA
124	30	24.6	11	Cork	32.0	27.0	CA
127	21	24.8	21	Cork	36.0	29.2	CA
129	30	24.9	24	White	36.0	31.5	CA
117	29	22.3	13	White	35.0	26.9	CA
118	None	22.7	6*	White	35.0	29.9	CA
125	14	24.9	14	White	34.0	26.9	CA
109	22	24.3	15	Cork	36.0	31.6	CA
108	None	25.1	7*	White	32.0	27.1	CA
120	14	24.8	16	White	32.0	27.4	CA
123	12	24.9	15	Cork	32.0	27.4	CA
117	None	25.0	28	Cork	34.0	27.1	CA
122	None	25.0	30	Cork	34.0	26.9	CA
110	57	21.1	47	White	35.0	29.9	CA
142	18	22.0	31	White	35.0	29.9	CA
144	35	22.4	33	White	35.0	30.0	CA
70	-	25.0	14	-	-	-	-
101	-	24.9	21	-	-	-	-
77	-	25.0	20	-	-	-	-
98	-	25.0	17	-	-	-	-
106	-	25.4	13	-	-	-	-
74	-	25.1	29	-	-	-	-

*These cigarettes are perforated.

**Contains carbon.

2021196240

**CIGARETTES ON MARKET WITH
TAR AND NICOTINE DATA LISTED ON PACK**

	<u>Tar, mg/cigt.</u>			<u>Nicotine, mg/cigt.</u>		
	<u>Listed On</u> <u>Package</u>	<u>FTC</u> <u>Data¹</u>	<u>CI</u> <u>Data</u>	<u>Listed On</u> <u>Package</u>	<u>FTC</u> <u>Data¹</u>	<u>CI</u> <u>Data</u>
<u>AMERICAN</u>						
Carlton 85 (Box)	<0.01	*	0.00	0.002	*	0.00
Carlton Menthol 85	<1	1	1	0.1	0.1	0.1
Carlton 100 (Box)	1	1	1	0.1	0.1	0.1
Carlton 100 Menthol (Box)	1	1	2	0.1	0.1	0.1
Carlton 85	1	1	2	0.2	0.1	0.2
Carlton Menthol 100	5	4	4	0.5	0.4	0.3
Carlton 100	3	3	4	0.3	0.3	0.4
Carlton Menthol 120	6	6	7	0.6	0.6	0.6
Carlton 120	6	6	6	0.6	0.6	0.6
Lucky Strike Lights 85	8	8	8	**	0.6	0.6
Lucky Strike Lights 100	9	9	9	**	0.8	0.8
Tareyton Lights 85	5	5	6	**	0.4	0.5
<u>LORILLARD</u>						
Triumph Menthol 85	2	4	4	0.3	0.4	0.4
Triumph 85	3	4	4	0.4	0.4	0.4
Triumph 100	4	5	5	0.5	0.5	0.5
Triumph Menthol 100	4	6	5	0.5	0.6	0.5
<u>PHILIP MORRIS</u>						
B&H DeLuxe Ultra Lts. 100 (Box)	6	6	6	0.6	0.5	0.5
B&H DeLuxe Ultra Lts. Menthol 100 (Box)	6	5	6	0.6	0.5	0.5
Cambridge 100	5	5	6	**	0.4	0.5
Merit Ultra Lights 85	5	5	5	0.5	0.5	0.4
Merit Ultra Lights Men. 85	5	5	5	0.5	0.5	0.4
Merit Ultra Lights 100	6	6	6	0.6	0.4	0.5
Merit Ultra Lights Men. 100	6	5	6	0.6	0.5	0.5
Merit 85	8	8	8	0.6	0.6	0.6
Merit 85 (Box)	8	8	8	0.6	0.6	0.6
Merit Menthol 85	8	8	8	0.6	0.6	0.6
Merit 100	10	10	10	0.8	0.8	0.8
Merit Menthol 100	10	10	10	0.8	0.8	0.8
<u>REYNOLDS</u>						
Now 80 (Box)	<0.5	*	0.00	**	*	0.00
Now 85	1	1	1	**	0.1	0.1
Now Menthol 85	1	1	2	**	0.1	0.2
Now 100	2	2	-	**	0.2	-
Now Menthol 100	3	3	-	**	0.3	-
<u>BROWN & WILLIAMSON</u>						
Barclay 80 (Box)	3	-	-	**	-	-
Barclay 85	3	-	-	**	-	-
Barclay 100	5	-	-	**	-	-

¹ FTC data published December, 1988.

*Less than 0.5 mg tar and 0.05 mg nicotine.

**Not Listed.

2021196241

COUPON BRANDS

Three companies utilize coupons on their brands:

PHILIP MORRIS

Alpine (85)

BROWN & WILLIAMSON¹

Belair (85 & 100)

Raleigh Filter (85 & 100)

Raleigh Nonfilter (85)

Raleigh Lights (85 & 100)

LIGGETT GROUP

Chesterfield Nonfilter (70 & 85)

Chesterfield Filter 85

American, Lorillard and Reynolds do not use coupons
on any of their brands.

¹These brands contain 2 coupons per pack and 8 coupons in the carton.

2021196242

PLEASE NOTE

THE APPENDIX SECTION WHICH INCLUDES THE SUMMARY OF BRAND CHANGES, THE DESCRIPTION OF DATA REPORTED, AND EXPERIMENTAL PROCEDURES HAS BEEN UPDATED IN THIS REPORT.

PLEASE RETAIN THIS COPY FOR A REFERENCE AS THESE SECTIONS WILL NOT BE INCLUDED AGAIN UNTIL JULY, 1989. THIS WILL SAVE A CONSIDERABLE AMOUNT OF PAPER AND EFFORT BY NOT INCLUDING THE APPENDIX SECTION IN EACH MONTH'S REPORT.

THE SUMMARY OF COMPETITIVE BRAND CHANGES IS ARRANGED ALPHABETICALLY BY COMPANY. ALSO, THE BRANDS ARE LISTED ALPHABETICALLY FOR YOUR CONVENIENCE IN LOCATING A SPECIFIC BRAND.

2021196243

APPENDIXSUMMARY OF COMPETITIVE BRAND CHANGES OBSERVED SINCE APRIL, 1960A. AMERICAN BRANDSAMERICAN BRAND 80

85 mm - Test marketed in soft pack (85 mm) - No unusual characteristics.

4/71

Discontinued.

AMERICAN BRAND 85

85 mm - Test marketed in soft pack (85 mm) - No unusual characteristics.

4/71

Discontinued.

AMERICAN LIGHTS 85

Test marketed in St. Louis, Missouri. Delivers 12 mg tar and 0.9 mg nicotine. This is a value entry product.

9/88

AMERICAN LIGHTS 100

Test marketed in St. Louis, Missouri. Delivers 11 mg tar and 0.9 mg nicotine. This is a value entry product.

9/88

AMERICAN LIGHTS 120

Plain - Introduced 120 mm cigarette with a 40 mm CA filter and a tipping paper length of 45 mm - Tar (8 mg) lower than any 120 mm entry to date.

4/76

Discontinued .

AMERICAN LIGHTS MENTHOL 120

Menthol - Introduced 120 mm cigarette with a 40 mm CA filter and a tipping paper length of 45 mm - Tar (9 mg) lower than any 120 mm entry to date.

4/76

Discontinued.

AMERICAN LONGS 120

Plain - Introduced 120 mm cigarette with a white cigarette paper - 30 mm CA filter - Tar (19 mg) and nicotine (1.5 mg) deliveries.

9/75

Discontinued.

2021196244

AMERICAN LONGS MENTHOL 120

Menthol - Introduced 120 mm cigarette with a white cigarette paper - 30 mm CA filter - Tar (16 mg) and nicotine (1.3 mg) deliveries.

9/75

Discontinued.

AMERICAN OVALS 100

100 mm cigarette with 25 mm CA filter made like a normal cigarette and pressed into its oval shape.

6/69

Discontinued.

BERMUDA 85

Test marketed - king size - 20 mm CA filter, high TPM, low RTD.

5/65

Discontinued.

BRIGHTON 85

Test marketed - king size - dual filtered mentholated - similar to Montclair.

4/65

Discontinued.

BRIGHTON CONVERTIBLE MENTHOL 100

Same as Tennyson Menthol 100 - Introduced in test market.

4/68

Discontinued.

BRIGHTON PINCH MENTHOL 100

Similar to previously introduced Brighton Convertible Menthol 100 and Tennyson Menthol 100.

11/68

Discontinued.

BULL DURHAM 85

Introduced - king size with larger circumference than normal cigarettes - 20 mm CA filter.

6/66

CARLTON 70

70 mm cigarette with 25 mm CA filter - Tar (0.7 mg), nicotine (0.15 mg). Data noted on pack "Tar" = 3 mg - Nicotine = 0.3 mg.

5/69

Increased filter ventilation, a more porous cigarette paper and a smaller circumference lowered tar to 1 mg and nicotine to 0.1 mg deliveries.

1/76

Expanded tobacco introduced at 35% level; reconstituted tobacco level decreased (25 to 18%).

9/76

2021196245

CARLTON 70 (cont.)

Discontinued.

CARLTON 85

Introduced - king size, dual filter with paper inner filter containing 3 mg of carbon - paper perforated immediately in front of tipping paper - TPM (8 mg), nicotine (0.5 mg) - Package label states: "Tar" = 2.5 mg, Nicotine = 0.4 mg. 1/64

TPM and nicotine reduced by changing to filter ventilation - Package label states: "Tar" = 2.7 mg, Nicotine = 0.3 mg. 5/64

TPM (3 mg) and nicotine (0.2 mg) increased - less efficient filter - Package label states: "Tar" = 3.9 mg and Nicotine = 0.4 mg. 10/64

TPM and nicotine deliveries increased by changing filter ventilation - "Tar" and nicotine data no longer stated on label. 1/65

TPM, nicotine and organic gas phase deliveries increased - Changes observed in total RTD, fiber denier and tobacco weight - Alkaloids increased slightly. 5/65

Total RTD decreased. 4/66

TPM and nicotine decreased - Filter efficiency increased as result of fiber denier changed. 5/66

"Tar" and nicotine data stated on package label. "Tar" = 9.5 mg and nicotine = 0.6 mg. 6/66

TPM and nicotine decreased, 3 mg and 0.1 mg by increasing ventilation. Data on pack changed - "Tar" = 9 mg and nicotine = 0.6 mg. 10/66

Data on pack changed - "Tar" = 7 mg and Nicotine = 0.5 mg. 4/67

Tar (2 mg) and nicotine (0.2 mg) decreased by increase in filter ventilation. 10/67

Tar (1 mg) and nicotine (0.1 mg) increased by changes in fiber shape and fiber denier. 12/67

A model of Carlton with 25 mm CA filter introduced with tar of 2.0 mg. 2/69

Filter change from 20 mm dual filter to 25 mm CA filter. 7/69

Tar (4 to 1 mg) and nicotine (0.4 to 0.2 mg) reduced by increased filter ventilation and lowering tobacco weight - Expanded tobacco content increased from 0 to 42%. 3/76

2021196246

CARLTON 85 (BOX)

Cigarettes packaged in a flip top box to replace the 70 mm Carlton cigarettes already on the market. Similar to Carlton 85 soft pack cigarettes. Tar (1 mg) and nicotine (0.1 mg) listed on pack. 1/77

Tar (<1.0 to <0.01 mg) and nicotine (0.1 to 0.002 mg) data listed on pack changed as indicated. 3/81

Ventilation was changed from four to six rows of laser perforation. Paper porosity changed from 14 to 7 sec. Both tar and nicotine deliveries of these cigarettes remains at 0.00 mg. 8/81

Name changed to Ultra Carlton. 7/88

CARLTON MENTHOL 85

Introduced - Mentholated version of Carlton 85 plain. 1/72

Tar (4 to 1 mg) and nicotine (0.4 to 0.1 mg) reduced by increased filter ventilation and lowering tobacco weight - Expanded tobacco content increased from 0 to 45%. 2/76

New package graphics. 7/88

CARLTON 100'S

National distribution - low tar (6 mg) and nicotine (0.5 mg) achieved by a 27 mm CA filter containing ventilation (52%). A low tobacco weight and rod density resulted from high ET content (35%). Tar (5 mg) and nicotine (0.5 mg) listed on pack. 4/77

Lower tar (5.9 to 4.4 mg) and nicotine (0.5 to 0.4 mg) deliveries resulted from a change to a more porous cigarette paper. 11/77

Lower tar (5 mg), nicotine (0.4 mg) and CO (5 mg) deliveries resulting from higher ventilation - lower total RTD. 1/86

New package graphics. 7/88

CARLTON 100 (BOX)

Introduced - Tar (0.8 mg) and nicotine (0.08 mg) - Ultra low delivery result of high filter ventilation (84%). 4/80

New package graphics. 7/88

CARLTON MENTHOL 100 (Box)

Introduced in Texas - Tar (1.0 mg) and nicotine (0.1 mg) - similar to Carlton 100 (Box). 1/82

National distribution. 7/85

New package graphics. 7/88

2021196247

CARLTON MENTHOL 100

Introduced on test market - Low delivery (4 mg tar and 0.4 mg nicotine) mentholated cigarettes similar to Carlton 100 cigarettes previously introduced. Blend contains 33% ET.

11/77

New package graphics.

7/88

CARLTON SLIMS DELUXE 100 (BOX)

National distribution-delivers 7 mg tar and 0.6 mg nicotine.

1/84

CARLTON SLIMS DELUXE MENTHOL 100 (BOX)

National distribution-delivers 7 mg tar and 0.6 mg nicotine.

1/84

CARLTON 120

Introduced - test market - Tar (7.2 mg) and nicotine (0.61 mg). The blend contains 34% expanded tobacco - ventilation system consists of two rows of laser perforation.

7/81

New package graphics.

7/88

CARLTON MENTHOL 120

Introduced - test market - Tar (6.4 mg) and nicotine (0.59 mg). The ventilation system consists of two rows of laser perforation.

8/81

Tar (5.9 to 7.4 mg), nicotine (0.57 to 0.77 mg), and CO (4.5 to 6.6 mg) increased - ventilation (37 to 28%) decreased.

11/82

New package graphics.

7/88

COLD HARBOR 85

Introduced - king size in soft pack - similar to Waterford with menthol added to filler.

6/66

Discontinued.

COLONY FILTER 85

Introduced - One of the first American Tobacco brands with coupons - 20 mm CA filter.

9/66

Discontinued.

COLONY MENTHOL 85

Introduced - One of the first American Tobacco brands with coupons - 20 mm CA filter.

9/66

Discontinued.

2021196248

COLONY FILTER 100

Introduced - 100 mm cigarette with 20 mm CA filter. 5/67

Discontinued.

COLONY MENTHOL 100

Introduced - 100 mm cigarette with 20 mm CA filter. 5/67

Discontinued.

COMPASS 85

Test marketed - king size mentholated - 20 mm CA filter. 6/65

Discontinued.

DOUBLE EIGHT 88

Double Eight, 88 mm long, replaced Pall Mall 88 on the market - Packaged in a black and white striped pack. 7/68

Discontinued.

FIFTY-FIFTY 100

Introduced - 100 mm cigarette with 45 mm CA filter. 2/67

Tar (5 mg) and nicotine (0.2 mg) increased by changes in cigarette paper. 10/67

Discontinued.

FRESH CONVERTIBLES 100

Similar to Tennyson Convertible Menthol 100, plug-space-plug filter, with capsules containing menthol and carbon granules in space. 9/69

Discontinued.

H. TAREYTON 85 (NF)

Removed from C.I. tables. History of brand in C.I. 5/64. 11/63

Chloride type paper component used. 4/63

TPM and nicotine deliveries reduced. 6/63

TPM reduced by 4 mg as a result of changes in paper porosity, paper component and fiber denier. 3/64

HALF & HALF 85

Introduced - king size in soft pack with "pipe tobacco blend". 5/64

2021196249

ICEBERG 10 MENTHOL 85

Low delivery (10 mg tar and 0.8 mg nicotine) with new Filtrona filter - Mentholated cigarette. Blend contains expanded tobacco (4%) and expanded RKS (3%).

5/72

Discontinued.

ICEBERG MENTHOL 100

Test marketed - 100 mm mentholated cigarette with a 30 mm "Filtrona-type" filter similar to the one used on Lucky Ten 100. Blend contains expanded tobacco and stems.

2/74

Cigarette re-engineered - Tar (10 to 5 mg) and nicotine (0.7 to 0.3 mg) decreased. Filtrona-type filter replaced by standard CA filter with 47% ventilation.

7/76

LTC 85

LTC (low tar cigarette) - similar to Lucky Ten in all characteristics.

8/71

Discontinued.

LONG JOHNS 120

Introduced 120 mm cigarette with brown paper colored with azo dyes. Circumference 22.5 mm. Tar (20 mg) and nicotine (1.7 mg) deliveries.

5/75

Discontinued.

LONG JOHNS MENTHOL 120

Introduced 120 mm menthol cigarette with brown paper colored with azo dyes. Circumference 22.5 mm. Tar (17 mg) and nicotine (1.4 mg) deliveries.

5/75

Discontinued.

LUCKY 100'S

Introduced - Similar to previously marketed Lucky Ten 100 - 30 mm "Filtrona" filter.

6/74

Cigarette re-engineered - Tar (10 to 5 mg) and nicotine (0.8 to 0.4 mg) decreased. Filtrona-type filter replaced by standard CA filter with 47% ventilation.

7/76

Discontinued.

2021196250

LUCKY FILTERS 100

Introduced - 100 mm cigarette with a 20 mm dual filter;
10 mm crimped tobacco with carbon and 10 mm CA filter. 3/67

Filter length (20 to 25 mm) increased, tar lower by 1 mg. 7/68

Name changed - Lucky Strike 100 to Lucky Filters 100. 8/68

Coupon added to pack. 6/69

Filter change from 25 mm dual filter to 25 mm CA filter,
cigarette paper porosity change (12 to 21 seconds), tar
(1 mg) and nicotine (0.1 mg) increased. 9/69

Reconstituted tobacco decreased (20 to 15%). 10/69

Discontinued.

LUCKY FILTERS (POLYMER) - 85

85 mm version of Lucky Filters, with a new polymer filter,
was introduced. The twenty-five (25) mm filter consists of
a CA-space-CA (10-5-10) with the space containing
approximately 100 mg of polyethylene and alumina. 9/68

Discontinued.

LUCKY FILTERS (POLYMER) - 100

100 mm version of Lucky Filters, with a new polymer filter,
was introduced. The twenty-five (25) mm filter consists of
a CA-space-CA (10-5-10) with the space containing approxi-
mately 100 mg of polyethylene and alumina. 9/68

Discontinued.

LUCKY STRIKE 70 (NF)

Paper porosity and paper component increased - TPM
reduced by 5 mg. 1/62

TPM increased by 2 mg. 7/62

TPM increased by 1 mg. 12/62

TPM decreased by 1.5 mg. 6/63

TPM decreased by 2 mg by changing paper component
and porosity. 5/64

Reconstituted tobacco content increased (7 to 11%). 4/66

Circumference and tobacco weight decreased. 9/66

TPM and nicotine increased, 6 mg and 0.2 mg respectively,
by changing paper component, citrate to phosphate, and
decreasing paper porosity. 10/66

2021196251

LUCKY STRIKE 70 (NF) (cont.)

Reconstituted material increased 9 to 12%.	9/68
Reconstituted material increased 12 to 17%.	10/70
Expanded tobacco added to blend (4%).	1/72
Expanded tobacco increased 4 to 6%.	1/74
Lower tar (1 mg) and nicotine (0.1 mg) correlating with a lower filler rod TPM.	11/75
Tar delivery (27 to 25 mg) decreased by increase in paper porosity.	2/76

LUCKY STRIKE FILTER 80

Plain - Test marketed in a soft pack - First 80 mm cigarette in a soft pack in the U.S. - High tar (26 mg) and nicotine (1.6 mg) correlating with a low filtration efficiency.	12/75
Discontinued.	

LUCKY STRIKE FILTER 85

Test marketed - king size triple filter (CA; carbon on CA; CA) - filter has gas phase activity.	8/64
Test marketed with 20 mm CA filter - high TPM.	11/64
TPM (2 mg) and nicotine (0.1 mg) decreased by increase in filter efficiency.	11/66
TPM (2 mg) and nicotine (0.1 mg) decreased by increase in paper porosity.	12/66
TPM reduced by a filter change from single CA to dual filter - Dual filter consisted of inner filter made from crimped tobacco sheet with embedded carbon and an outer CA filter.	9/67
Change from 20 mm dual filter to 20 mm CA filter.	8/69
Reconstituted tobacco increase (14 to 18%).	4/70
Tar (3 mg) and nicotine (0.3 mg) increased as result of blend change.	5/70
Discontinued.	12/71

LUCKY STRIKE 85

Introduced - test market - delivers 11.6 mg tar and 0.94 mg nicotine. The cigarette length is 83 mm. American Brands has no other 85 mm cigarette in the 10-12 mg tar category.	11/81
Expanded stems removed and reconstituted tobacco increased (20%) in blend - no changes in smoke deliveries.	5/86

2021196252

LUCKY STRIKE 85 (BOX)

Introduced - test market - delivers 11.2 mg tar and 0.88 mg nicotine. The ventilation consists of one row of laser perforation. The cigarette length is 83 mm. American Brands has no other 85 mm cigarette in the 10-12 mg tar category.

11/81

LUCKY STRIKE MENTHOL 85

Introduced - 85 mm mentholated cigarette with 20 mm CA filter.

6/66

Discontinued.

12/68

Re-introduced nationally - delivers 11 mg tar, 0.8 mg nicotine and 0.6 mg smoke menthol.

5/86

LUCKY STRIKE 100

Introduced in February 1984 delivers 11 mg tar and 1 mg nicotine.

3/84

LUCKY STRIKE MENTHOL 100

Introduced - 100 mm mentholated cigarette with 20 mm CA filter.

4/67

TPM (2 mg) and nicotine (0.2 mg) decreased by changing to a more porous paper.

5/67

Filter length (20 to 25 mm) increased, tar lower (1 mg).

7/68

Discontinued.

12/68

Reintroduced-delivers 10 mg tar, 0.8 mg nicotine and 0.8 mg smoke menthol-24 mm circumference.

11/85

National

3/86

LUCKY STRIKE LIGHTS 85

Introduced - delivers 7 mg tar - has the shortest cigarette length of any king size cigarette in a soft pack.

11/83

LUCKY STRIKE LIGHTS 100

Introduced - delivers 9 mg tar.

11/83

LUCKY TEN 85

Low delivery (10 mg tar and 0.8 mg nicotine) with new Filtrona filter - Blend contains expanded tobacco (5%).

8/71

2021196253

LUCKY TEN 85 (cont.)

A decrease in tar (9 to 8 mg) resulting from a change in filters from a 25 mm Filtrona-type filter to a 25 mm standard CA filter containing ventilation (35%). Lower total RTD noted.

4/77

Discontinued.

12/77

LUCKY TEN 100

Test marketed - 30 mm Filtrona filter with triangular openings at each end and constricted in the middle. 5% expanded tobacco. Tar (9 mg) and nicotine (0.9 mg) listed on pack.

4/73

Discontinued.

12/77

MALIBU 85

National distribution - delivers 17 mg tar and 1.2 mg nicotine. 9/88

MALIBU MENTHOL 85

National distribution - delivers 16 mg tar, 1.2 mg nicotine, and 0.7 mg smoke menthol.

9/88

MALIBU LIGHTS 85

National distribution - delivers 9 mg tar and 0.7 mg nicotine. 9/88

MALIBU 100

Test marketed in New Hampshire, Peoria and Spokane - first value entry - delivers 11 mg tar and 1 mg nicotine.

3/87

MALIBU MENTHOL 100

Test marketed in New Hampshire, Peoria and Spokane - first value entry - delivers 11 mg tar, 1 mg nicotine and 0.6 mg smoke menthol.

3/87

MALIBU LIGHTS 100

Test marketed in New Hampshire, Peoria and Spokane - first value entry - delivers 9 mg tar and 0.8 mg nicotine.

3/87

MARYLAND 100

100 mm cigarette with 100% air-cured tobacco - No RKS or reconstituted material.

3/70

Discontinued.

12/71

2021196254

MARYLAND MENTHOL 100

100 mm mentholated cigarette with 100% air-cured tobacco -
Contains no reconstituted material or RKS. 10/70

Discontinued. 12/71

MERMAID MENTHOL 100

Test marketed - 25 mm CA filter - Blend contains RKS which
has been processed to give an expanded appearance. 11/71

Discontinued.

MONTCLAIR 85

Introduced - mentholated! dual filter, carbon section -
released menthol, which is concentrated there, as TPM is
picked up - has no gas phase activity. 3/62

TPM, nicotine, and menthol deliveries increased. 8/62

Paper component identified as chloride type. 4/63

TPM and nicotine, deliveries increased by changing filter
ventilation - "Tar" and nicotine data no longer stated on
label. 1/64

TPM reduced 7 mg as result of a new filter and filter
ventilation - Package label states: "Tar" = 5.2 mg,
Nicotine = 0.5 mg. 5/64

TPM reduced 5 mg. Nicotine delivery also decreased, RTD
increased. TPM reduced 4 mg by changing paper component
and porosity. 6/64

Carbon type changed, coconut to coal. 10/64

TPM (4 mg) and nicotine (0.2 mg) increased, less efficient
filter - Package label states: "Tar" = 6.9 mg, Nicotine =
0.7 mg. 11/64

Menthol content and delivery increased. 8/65

Menthol content and delivery increased. 7/66

TPM (2 mg) decreased by increasing filter ventilation. 5/67

TPM (4 mg) and nicotine (0.2 mg) decreased by changes in
filter ventilation, filter efficiency, and paper porosity. 6/67

Coupon added to pack. 9/67

Circumference decreased (25.2 to 24.9 mm); lower tobacco
weight noted. 12/68

Reconstituted tobacco content increased (20 to 36%). 4/69

Change from 20 mm dual filter to 20 mm CA filter. 8/69

2021196255

MONTCLAIR 85 (cont.)

Reconstituted tobacco decreased (36 to 28%).	10/69
Tar (6 mg) and nicotine (0.5 mg) increased by elimination of filter ventilation, change to less porous paper.	
Reconstituted tobacco decreased (28 to 19%).	4/70
Reconstituted tobacco increased (19 to 25%).	9/71
Expanded tobacco added to blend (3%) - Higher filler menthol and menthol delivery noted.	2/73
Expanded stems added to blend (12%) and reconstituted material decreased from 17 to 8% - No change in smoke deliveries.	3/73
Expanded tobacco removed from blend. Tar (1 mg) and nicotine (0.1 mg) decreased - Alkaloids and sugars lower.	2/75
Discontinued.	12/75

PALL MALL 85 (NF)

Paper porosity and RTD increased; TPM and nicotine deliveries reduced (3 mg and 0.1 mg).	4/63
Nicotine delivery reduced slightly.	6/63
TPM and nicotine reduction, 6 mg and 0.2 mg respectively, by changing paper component, phosphate to citrate, and increasing paper porosity.	1/64
TPM and nicotine increased, 7 mg and 0.3 mg respectively, by changing paper component, citrate to phosphate, and decreasing paper porosity.	10/66
Reconstituted material increased, 9 to 12%.	4/67
TPM (6 mg) and nicotine (0.2 mg) decreased by changing paper additive and increasing paper porosity.	5/67
Expanded tobacco added to blend (2%).	1/73
Expanded tobacco increased from 2 to 6%.	1/74
Expanded stems added to blend (3%).	9/75
Lower tar (1 mg) and nicotine (0.1 mg) correlating with a lower filler rod TPM.	11/75
Lower tar (25 to 23 mg) and nicotine (1.5 to 1.4 mg) deliveries resulting from a change to a more porous cigarette paper.	6/79
Cigarette length (84.8 to 83.7 mm) decreased.	8/82

2021196256

PALL MALL 85 (NF) (25's)

Test marketed in Rhode Island - contains 25 cigarettes per pack - similar to Pall Mall 85 (NF) - 200 cigarettes per carton - cigarettes packed in an 8-9-8 configuration in the pack. 5/85

National Distribution. 5/86

PALL MALL "UNFILTERED" LIGHTS 85 (SP)

Test market - Rhode Island - delivers 14 mg tar, 1 mg nicotine and has a tobacco filter with porous plugwrap and two rows of laser perforation. The tobacco filter blend (24% reconstituted tobacco, 11% expanded stems and 39% expanded tobacco) is different from the blend of the tobacco column. 9/86

PALL MALL 88

Pall Mall cigarettes, 88 mm long, introduced in white pack with gold lettering. 5/68

Discontinued.

PALL MALL 100

Plain - Test marketed in new air tight hermetically sealed "polyfoil pak." 10/74

Freon expanded tobacco has been added at the 9% level resulting in a lower tobacco weight (0.905 to 0.865 g). 7/81

PALL MALL MENTHOL 100

Menthol - Test marketed in new air tight hermetically sealed "polyfoil pak." 10/74

Discontinued.

PALL MALL EXTRA MILD 80

Low delivery (9 mg tar and 0.7 mg nicotine) with new Filtrona molded filter - Blend contains expanded tobacco (4%) - Similar to Lucky Ten 85 in most characteristics. 7/72

Discontinued. 12/77

PALL MALL EXTRA LIGHT 85

85 mm cigarette similar to 80 mm version previously introduced in 7/72. 8/72

Tar (6 mg) and nicotine (0.7 mg) decreased - Filtrona filter with no ventilation was replaced by a standard CA filter with 45% ventilation. Tobacco weight and rod density were higher as result of elimination of ET from blend. 6/76

2021196257

PALL MALL EXTRA LIGHT 85

Brand name changed from Pall Mall Extra Mild 85 to Pall Mall Extra Light 85. No changes in smoking or physical characteristics. Tar delivery listed on pack as "7 mg or Less".

4/78

PALL MALL FILTER 80 (BOX)

Test marketed in hard box (80 mm) - Tar (19 mg) and nicotine (1.2 mg) deliveries.

5/71

Reintroduced - plain - test marketed in a red flip top box similar in color and design to the soft pack used for Pall Mall 85 Nonfilter cigarettes - High tar (24 mg) and nicotine (1.5 mg) deliveries correlating with a low filtration efficiency.

12/75

Discontinued.

PALL MALL FILTER 85

Test marketed in soft pack (85 mm) - Tar (20 mg) and nicotine (1.3 mg) deliveries.

5/71

Reintroduced - plain - test marketed in a red soft pack similar to that used for Pall Mall 85 Nonfilter cigarettes - Filter RTD extremely low resulting in a low filtration efficiency - Tar (25 mg) and nicotine (1.6 mg) deliveries.

10/75

Tar (25 to 18 mg) and nicotine (1.6 to 1.2 mg) decreased as result of a longer (17 to 20 mm), more efficient filter.

12/76

PALL MALL FILTER LIGHTS 85

The incorporation of ventilation (14%) and a change to a more porous cigarette paper resulted in lower tar (16 to 13 mg), nicotine (1.2 to 1.0 mg) and CO (16 to 12 mg) deliveries. The pack has been modified by adding a blue banner to the design.

11/86

PALL MALL FILTER 95

Introduced - 95 mm long cigarette in gold crush-proof box with hinge top - 15 mm CA filter.

3/66

Tar (6 mg) and nicotine (0.3 mg) reduced by increasing filter length (15 to 25 mm) and tipping paper (21 to 30 mm).

2/68

Brand discontinued - Replaced with 100 mm size in crush-proof box.

3/71

Discontinued.

2021196258

PALL MALL FILTER MENTHOL 95

Introduced - 95 mm long in new type package - mentholated -
15 mm CA filter. 11/65

Tipping paper increased (19 to 21 mm). 7/67

Tar (6 mg) and nicotine (0.2 mg) reduced - single package
comprised of twin crush-proof boxes - one box contains ten
mentholated and the other ten non-mentholated cigarettes. 2/68

Discontinued.

PALL MALL FILTER 100

Test marketed - 100 mm long - Same as Pall Mall nonfilter
with 15 mm CA filter. 10/64

TPM (5 mg) and nicotine (0.2 mg) decreased by an increase
in filter efficiency. 11/66

Tipping paper increased 19 to 21 mm. 2/67

Reconstituted material increased 9 to 12%. 4/67

TPM (3 mg) decreased by increasing filter length (17 to
20 mm) and by increasing paper porosity. 5/67

Tar (2 mg) and nicotine (0.3 mg) reduced by increases in
filter length (20 to 25 mm) and tipping paper (24 to 30 mm). 10/67

Circumference decreased (24.7 to 24.4 mm) and tobacco weight
decreased, no change in tar or nicotine. 11/68

Tar (1 mg) and nicotine (0.1 mg) reduced by an increase
in filter efficiency - High total and filter RTD noted. 10/70

Filter length (25 to 27 mm) and tipping paper (30 to 32 mm)
increased - No change in smoke deliveries. 3/74

Addition of 3% ES to blend. 4/75

Discontinued.

Introduced in Atlanta, Georgia - delivers 14 mg tar and 1 mg
nicotine - packaged in a red pack with a blue banner. 5/87

PALL MALL FILTER MENTHOL 100

Introduced - 100 mm mentholated cigarette with 15 mm
CA filter. 10/66

Tipping paper increased (19 to 21 mm). 2/67

TPM (2 mg) decreased by increasing filter length (17 to
20 mm) and by increasing paper porosity. 5/67

Tar (2 mg) and nicotine (0.3 mg) reduced by increases in
filter length (20 to 25 mm) and tipping paper (24 to 30 mm). 10/67

2021196259

PALL MALL FILTER MENTHOL 100 (cont.)

Tar (1 mg) and nicotine (0.1 mg) reduced by a blend change. 3/68

Circumference decreased (24.9 to 24.6 mm) and tobacco weight decreased, no change in tar and nicotine. 11/68

Tar (1 mg) and nicotine (0.1 mg) increased by changes in blend and heavier tobacco weight; smoke and filler menthol decreased. 10/69

Reconstituted tobacco decreased (22 to 17%). 10/69

Reconstituted tobacco increased (16 to 21%). 10/70

Addition of expanded RKS (11%) and expanded tobacco (3%) to blend - Reconstituted tobacco content reduced (21 to 7%). Alkaloids increased and fiber shape changed from X to Y - shape. Total and filter RTD increased. 5/72

Expanded tobacco removed from blend. Tar (1 mg) and nicotine (0.1 mg) decreased. Alkaloids and sugars lower. 2/75

Discontinued.

PALL MALL FILTER 100 (BOX)

Plain - This new 100 mm cigarette in a crush-proof box replaces the previously marketed Pall Mall 95 cigarettes in a flat twin pack. 4/71

Discontinued.

PALL MALL FILTER MENTHOL 100 (BOX)

Menthol - This new 100 mm cigarette in a crush-proof box replaces the previously marketed Pall Mall 95 cigarettes in a flat twin pack. 4/71

Discontinued.

PALL MALL LIGHTS 100'S

Introduced - 100 mm low tar (12 mg) and nicotine (1.0 mg) brand characterized by 27 mm filter with 24% ventilation. Blend contains 8% expanded tobacco and 2% expanded stems. 7/78

Tar (10.6 to 8.1 mg), nicotine (0.94 to 0.74 mg) and CO (10.3 to 7.6 mg) reduced - increase in filter ventilation (28 to 47%) decrease in filter RTD (4.6 to 3.6). 2/81

Tar (8.4 to 10.9 mg), nicotine (0.8 to 1.0 mg) and CO (8 to 10 mg) increased due to reduced ventilation (53 to 36%) - total RTD increased (3.2 to 4.2). 7/83

CO (10 to 12 mg) delivery increased due to decreased filter ventilation (37 to 23%) - higher filter RTD (3.0 to 4.2 in. H20) correlated with higher efficiency (48 to 54%). 1/84

2021196260

Tar (10.3 to 9.3 mg) and CO (12.1 to 10.4 mg) decreased - ventilation increased (22 to 28%).

9/84.

PALL MALL LIGHT MENTHOL 100'S

Introduced - 13 mg tar and 1.1 mg nicotine - Blend contains 12% expanded tobacco and 12% expanded stems. Cigarette has mechanically perforated cigarette paper and no ventilation.

4/79

PINNACLE 85

New 85 mm cigarette with 25 mm geometrically shaped filter similar to that on Vantage (RJR); however, filter is reversed.

9/70

Discontinued.

PINNACLE MENTHOL 85

Test marketed - king size - dual filtered mentholated - tobacco blend markedly different.

4/65

Discontinued.

SAFARI 100

Test marketed - 100 mm cigarette with 25 mm CA filter. New type package - pouch pack with fin seals.

1/73

Discontinued.

SILVA THINS 100

100 mm cigarette with 20 mm CA filter; small circumference (22 mm) and 26% reconstituted material.

9/67

Reconstituted tobacco decreased (26 to 13%) and paper porosity increased - No change in smoke deliveries.

5/68

Blend changed as indicated by higher alkaloids and a markedly lower reducing sugar - The nicotine delivery (0.1 mg) was increased by this change.

7/70

Expanded stem added to blend at 10% level and reconstituted tobacco content reduced 18 to 11% - Filter changed from 20 mm paper to 25 mm CA. Lower tobacco weight and rod density noted. Tar decreased (2 mg).

2/72

Expanded stem content increased (10 to 16%).

3/73

Lower tar (16 to 12 mg) and nicotine (1.2 to 1.1 mg) deliveries resulting from introduction of filter ventilation (30%). Increases in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) were also noted.

8/77

The addition of 4% ET - ES increased from 8 to 16% resulting in a lower tobacco weight.

5/82

Tar (11 to 12 mg) and CO (10 to 11 mg) increased as a result of lower ventilation (30 to 20 %).

11/85

2021196261

SILVA THINS 100 (BOX)

Test marketed - delivers 10 mg tar, 0.8 mg nicotine and has longer filter, longer tipping paper length, larger circumference and less porous cigarette paper than the Soft Pack. 3/86

SILVA THINS MENTHOL 100

100 mm cigarette with small circumference - Similar to Silva Thins Plain in all characteristics except for menthol. 8/68

Blend changed as indicated by higher alkaloids and lower reducing sugars. Filler rod TPM increased (2 mg) and tar delivery increased (1 mg). 9/71

Filter length increased 20 to 25 mm - No change in smoke deliveries. 5/74

Lower tar (15 to 12 mg) and nicotine (1.1 to 1.0 mg) deliveries resulting from introduction of filter ventilation (30%). Increases in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) were also noted. Introduced expanded stem at 3% level. 8/77

Lower tar (12 to 7 mg) and nicotine (1.0 to 0.8 mg) deliveries correlating with a more efficient filter and a lower filler rod TPM. 5/79

Tar (7 to 11 mg) and nicotine (0.8 to 1.0 mg) increased by a decrease in filter ventilation. 8/79

Changed the filter from 27 mm paper to 27 mm CA - Tar (11 to 12 mg) and nicotine (0.9 to 1.1 mg) increased as result of less efficient filter. 5/80

The addition of 4% ET - ES increased from 8 to 16% resulting in a lower tobacco weight. 5/82

Tar (11 to 12 mg) and CO (10 to 11 mg) increased as a result of lower ventilation (30 to 20%)-higher smoke menthol delivery (0.4 to 0.5 mg). 11/85

SILVA THINS MENTHOL 100 (BOX)

Test marketed - delivers 10 mg tar, 0.8 mg nicotine and 0.4 mg smoke menthol and has a longer filter, longer tipping paper length, larger circumference and less porous cigarette paper than the Soft Pack. 3/86

SUPER M MENTHOL 100

Test marketed - 100 mm mentholated cigarette in new air tight hermetically sealed "polyfoil pak" - Same pack as used on Safari 100. 5/74

Discontinued.

2021196262

SWEET CAPORAL 85

Introduced - king size with 20 mm CA filter. 10/65

Discontinued.

TALL 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter -
White stripped cigarette paper - Tar (19 mg) and nicotine
(1.4 mg) deliveries. 8/75

Tar (18 to 21 mg), nicotine (1.6 to 1.7 mg), and CO
(20 to 21 mg) increased - ventilation reduced (36 to
30%). 9/83

TALL MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter -
White striped cigarette paper - Tar (19 mg) and nicotine
(1.4 mg) deliveries. 8/75

Tar (18 to 20 mg), nicotine (1.6 to 1.7 mg), and CO
(17 to 21 mg) increased - ventilation decreased (38 to
31%). 9/83

TAREYTON 85

Paper component now being used, identified as chloride type. 4/63

TPM reduced by 3 mg - Nicotine delivery decreased by 0.1 mg.
Total and filter RTD increased. 6/63

TPM and nicotine reduced (4 mg and 0.1 mg) - Change in
paper component and porosity. 2/64

Fiber shape changed, I to cloverleaf. 8/64

Fiber denier changed, 5.0 to 4.0. 11/64

Fiber shape changed, cloverleaf to I. 5/65

Reconstituted tobacco content increased (10 to 14%). 10/65
Tipping paper increased 19 to 24 mm, paper porosity
increased - TPM unchanged. 2/67

TPM (1 mg) decreased as result of change in filter length -
Paper porosity decreased 14 to 20 seconds. 4/67

Reconstituted tobacco decreased 20 to 15%. 10/69

Addition of 3% ES to blend. 4/75

Tar decreased (19 to 17 mg) resulting from a change to a
more porous cigarette paper. 7/76

2021196263

TAREYTON 85

Freon expanded tobacco introduced to the blend at the 9% level resulting in a lower tobacco weight. Change resulted in lower tar (16 to 14 mg) and nicotine (1.2 to 1.0 mg) deliveries. 8/78

Lower tar (15 to 13 mg) correlating with a higher RTD for the inner paper filter. 5/79

TAREYTON LIGHTS 85

Test marketed - an 85 mm low tar (8 mg) and nicotine (0.6 mg) cigarette. 27 mm dual filter with filter ventilation (44%) consisting of 17 mm CA outer filter and 10 mm paper inner filter. Inner filter contains carbon granules. Longest filter of any 85 mm cigarette on the market. 1/77

Tar (7 to 4 mg) and nicotine (0.7 to 0.3 mg) decreased resulting from an increase in filter ventilation and lower tobacco weight. Lower tobacco weight result of the addition of expanded tobacco (32%). 2/80

Tar (5 to 6 mg), nicotine (0.4 to 0.5 mg) and CO (5 to 6 mg) increased as a result of decreased ventilation (53 to 41%). 11/86

TAREYTON MENTHOL 85

Introduced on test market - Low delivery (7 mg tar and 0.6 mg nicotine), mentholated brand similar in most characteristics to Tareyton Lights 85 previously introduced. Contains no charcoal in filter. 9/77

Discontinued.

TAREYTON 100

Introduced - 100 mm 20 mm dual filter. 4/67

TPM (2 mg) decreased as result of changing paper porosity. 5/67

Tar (2 mg) and nicotine (0.2 mg) reduced by increases in filter length (20 to 25 mm) and tipping paper (24 to 30 mm). 10/67
Filter length (20 to 25 mm) increased, no changes in smoke deliveries. 9/68

Tar (2 mg) and nicotine (0.1 mg) increased correlating with a reduction in filter efficiency. 11/70

Tar (2 mg) increased - Higher filler rod TPM and puff count. 12/71

Filter length (25 to 27 mm) and tipping paper (30 to 32 mm) increased. Lower tar (1 mg) noted. 10/73

Addition of 3% ES to blend. 4/75

Tar (19 to 17 mg) and nicotine (1.4 to 1.3 mg) decreased resulting from a change to a more porous cigarette paper. 7/76

2021196264

TAREYTON 100 (cont.)

Lower tar (17 to 15 mg) and nicotine (1.3 to 1.2 mg) deliveries resulting from decrease in filler rod TPM delivery.

5/78

Freon expanded tobacco introduced to the blend at the 9% level resulting in a lower tobacco weight. Change resulted in lower tar (15 to 13 mg) and nicotine (1.2 to 1.0 mg) deliveries.

8/78

TAREYTON LONG LIGHTS 100

Introduced - 100 mm low tar (8 mg) and nicotine (0.7 mg) cigarette. 27 mm dual filter with filter ventilation (37%) consisting of 17 mm CA outer filter and 10 mm paper inner filter. Inner filter contains carbon granules. Blend contains 7% expanded tobacco.

1/78

Tar (9 to 7 mg) and nicotine (0.8 to 0.7 mg) decreased resulting from an increase in filter ventilation (30 to 47%).

8/79

TAREYTON ULTRA LOW TAR MENTHOL 85

Test marketed - These new cigarettes deliver 2 mg tar and 0.1 mg nicotine - 25 mm CA filter with 75% ventilation and blend containing 34% expanded tobacco.

3/79

Discontinued.

TENNYSON MENTHOL 85

Introduced - king size mentholated - carbon portion of dual filter has no gas phase activity.

10/65

Discontinued.

TENNYSON MENTHOL 100

100 mm mentholated cigarette - menthol contained in gelatin capsules which release menthol when filter is pinched - similar filter to that in Waterford.

10/67

Discontinued.

TWIST 100

Test marketed - 100 mm cigarette with lemon and menthol flavoring. Blend contains 10% expanded stems.

6/73

Discontinued.

12/75

ULTRA CARLTON

Name changed from Carlton 85 (Box) - new package graphics.

7/88

2021196265

B. BROWN AND WILLIAMSON TOBACCO COMPANYARCTIC LIGHTS 85

Test marketed - 85 mm cigarette delivering 9 mg tar and 0.7 mg nicotine. High alkaloid blend containing 14% expanded stems - 25 mm CA filter with 33% ventilation.

9/78

Discontinued.

ARCTIC LIGHTS 100

Test marketed - 100 mm cigarette delivering 10 mg tar and 0.8 mg nicotine. High alkaloid blend containing 14% expanded stems - 27 mm CA filter with 39% ventilation.

9/78

Discontinued.

AVALON 85

Introduced - test market - king size, triple filter, in soft pack.

7/63

Discontinued.

12/64

BARCLAY 80 (BOX)

Test marketed - ultra low tar (3.2 mg) - 27 mm CA filter containing 64% ventilation-blend contains 11% reconstituted tobacco, 18% expanded tobacco and 11% expanded stems.

10/80

Tar (3.0 to 1.3 mg), nicotine (0.17 to 0.08 mg) and CO (3.0 to 1.2 mg) reduced as result of increase in filter ventilation (66 to 84%) - rows of (MP) holes increased (2 to 3) - elimination of reconstituted tobacco, expanded stems - increase in expanded tobacco (17 to 36%) - lower tobacco weight (0.582 to 0.520 g) - increase in total alkaloids (1.71 to 2.67%).

2/81

Reconstituted tobacco (19%) and expanded stems (5%) added to blend - expanded tobacco decreased (32 to 10%) - tobacco weight (0.533 to 0.628 g) and rod density (0.203 to 0.240 g/cc) increased.

1/85

BARCLAY ULTRA LIGHTS 80 (BOX)

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 80 - similar to Barclay 80 in most characteristics.

11/84

Discontinued.

2021196266A

WATERFORD 80

Introduced - long size in crush proof box - novel filter containing two types of capsules in addition to charcoal - One of the capsule types contains water.

9/65

Discontinued.

12/66

WATERFORD 85

Introduced - king size in soft pack - novel filter contains only one type capsule containing water - Charcoal also present.

2/66

Discontinued.

WHITE LEAF 85

Test marketed - 85 mm filter cigarette with bleached all tobacco wrapper instead of cigarette paper.

6/67

Discontinued.

2021196266

BARCLAY 85

Test marketed - ultra low tar (2.5 mg) - 27 mm CA filter with 77% filter ventilation-blend contains 32% expanded tobacco and no reconstituted tobacco or expanded stems. 9/80

Reconstituted tobacco (19%) and expanded stems (5%) added to blend - expanded tobacco decreased (32 to 10%) - tobacco weight (0.550 to 0.678 g) and rod density (0.194 to 0.240 g/cc) increased. 1/85

Test marketed version of Barclay 85 with three rows of micro-mechanical perforation and one row of Hauni laser perforation and an Actron filter (manufactured by American Filtrona) that uses cellulose acetate as the plugwrap. 1/86

National distribution with filter design introduced in January, 1986. 5/86

BARCLAY MENTHOL 85

Introduced - nationally - 85 mm mentholated cigarette. Tar (1.4 mg) and nicotine (0.11 mg) - filter ventilation is achieved by a system of mechanical perforation and four longitudinal grooves along the filter. These cigarettes are similar in most characteristics to Barclay 85. 7/81

Uses cellulose acetate film as the plugwrap - filter manufactured by American Filtrona 9/85

Discontinued. 7/87

BARCLAY ULTRA LIGHTS 85

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 85 - similar to Barclay 85 in most characteristics. 11/84

Discontinued.

BARCLAY 100

Test marketed - ultra low tar (3.5 mg) - 27 mm CA filter with 69% filter ventilation - blend contains 26% expanded tobacco, 6% reconstituted tobacco and 12% expanded stems. 9/80

Introduced nationally. 7/81

Decreased the amount of expanded tobacco (25 to 12%) and increased the amount of reconstituted material (7 to 17%) - increased tobacco weight and rod density. 7/85

Tar (3 to 5 mg) nicotine (0.3 to 0.4 mg) and CO (2 to 3 mg) increased - lower ventilation (76 to 69%). 11/85

2021196267

BARCLAY 100 (continued)

Test marketed version of Barclay 100 with two rows of micro-mechanical perforation and one row of Hauni laser perforation and an Actron filter (manufactured by American Filtrona) that uses cellulose acetate as the plugwrap. 1/86

National distribution with filter design introduced in January, 1986. 5/86

BARCLAY MENTHOL 100

Introduced - nationally - 100 mm mentholated cigarette. Tar (3.4 mg) and nicotine (0.28 mg) - filter ventilation is achieved by a system of mechanical perforation and four longitudinal grooves along the filter. These cigarettes are similar in most characteristics to Barclay 100. 7/81

Uses cellulose acetate film as the plugwrap - filter manufactured by American Filtrona. 9/85

Discontinued. 7/87

BARCLAY LIGHTS ULTRA THINS 100 (BOX)

Test market - Atlanta, Georgia - delivers 9 mg tar, 0.7 mg nicotine - 17 mm circumference. 11/87

BARCLAY LIGHTS ULTRA THINS MENTHOL 100 (BOX)

Test market - Atlanta Georgia - delivers 9 mg tar, 0.7 mg nicotine, and 0.7 mg smoke menthol - 17 mm circumference. 11/87

BARCLAY ULTRA LIGHTS 100

Introduced in Wichita, Kansas - delivers 4 mg tar and 0.4 mg nicotine - utilizes the same filter as the Barclay 100 - similar to Barclay 100 in most characteristics. 11/84

Discontinued.

BELAIR 85

Introduced - king size recessed filter, mentholated. 6/60

Lighter filter. 6/62

Flush-type filter. 6/62

TPM reduced, and paper porosity increased - Carbowax (5%) observed in the filter. 12/63

Filler alkaloids increased resulting in higher nicotine delivery. 1/64

2021196268

BELAIR 85 (continued)

Change in paper component, phosphate to citrate.	3/64
TPM reduced (2 mg).	8/64
Filler change reduced nicotine delivery by reducing total alkaloids.	9/64
Fiber shape changed from cloverleaf to X-shape.	3/66
TPM (1 mg) increased.	5/66
TPM (4 mg), nicotine (0.2 mg), and menthol in smoke (0.1 mg) decreased as result of change in paper porosity.	1/67
TPM (2 mg) decreased as result of blend change.	8/67
Tar (2 mg) reduced by increase in filter efficiency; fiber shape changed X to Y-shape.	3/68
Tar (1 mg), nicotine (0.2 mg), and menthol (0.5 mg) deliveries were reduced by changes in filter length (20 to 21 mm) and tipping paper (24 to 25 mm).	7/68
Reconstituted tobacco (7 to 11%) and RKS (12 to 16%) increased.	4/70
Addition of expanded RKS to blend replacing portion of regular RKS.	2/72
Lower total alkaloids (0.2%) and nicotine delivery (0.2 mg).	5/73
Tipping paper length increased 25 to 26 mm - No other changes.	7/73
Menthol in smoke content increased by increasing filler menthol.	3/76
Filler alkaloids and total reducing sugars were lower. Nicotine delivery reduced by 0.1 mg.	5/76
Lower tar delivery (15 to 13 mg) resulting from a change to a more porous, mechanically perforated cigarette paper.	8/77
Lower tar (13 to 12 mg) due to decrease in filler rod TPM delivery.	5/78
The addition of expanded tobacco at the 6% level was observed. This change resulted in lower tobacco weight and rod density and an increase in total RTD. 10/78 Lower tar (12 to 8 mg) and nicotine (0.9 to 0.8 mg) deliveries resulting from the introduction of filter ventilation (26%) and an increase in tipping paper length.	1/79

2021196269

BELAIR 85 (cont.)

Tar (9 to 10 mg), nicotine (0.76 to 0.82 mg) and filler rod TPM (26.3 to 29.8 mg) increased resulting from less porous paper (7 to 15 sec.) with lower level of paper component (0.6 to 0.2%) - decreased total and filter RTD. 1/84

Increased filter and tipping lengths - lower tobacco weight resulted - no changes in smoke deliveries. 9/87

BELAIR 100

100 mm cigarette with 25 mm CA filter - Similar to Kool 100. 9/68

Coupon added to pack. 9/69

RKS decreased (17 to 13%). 10/69

Filter fiber shape changed - X-shape to Y-shape. 8/71

Addition of expanded RKS to blend replacing portion of regular RKS. 2/72

Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Tar (2 mg) and nicotine (0.1 mg) decreased. 12/72

Lower total alkaloids (0.1%) and nicotine delivery (0.1 mg). 5/73

Menthol in smoke content increased by increasing filler men. 3/76

Lower tar delivery (16 to 14 mg) resulting from a change to a more porous, mechanically perforated cigarette paper. 8/77

Lower tar (14 to 13 mg) due to decrease in filler rod TPM delivery. Lower tobacco weight and rod density were also noted. 5/78

The addition of expanded tobacco at the 6% level was observed. This change resulted in lower tobacco weight and rod density and an increase in total RTD. 10/78

Lower tar (13 to 8 mg) and nicotine (1.0 to 0.7 mg) deliveries resulting from the introduction of filter ventilation (33%) and an increase in tipping paper length (32 to 36 mm). A change to a less porous paper (7 to 12 seconds) and the removal of expanded tobacco in the blend was noted. 1/79

Addition of 10% expanded tobacco resulted in a lower tobacco weight and rod density. Tar (7 to 8 mg) and CO (10 to 11 mg) increased as a result of a decrease in filter ventilation (37 to 24%). 11/80

2021196270

BELAIR 100 (cont.)

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight. 3/81

Tar (10.2 to 8.8 mg), nicotine (0.81 to 0.74) and CO (12.0 to 10.2 mg) decreased - increased ventilation (25 to 34%). 9/82

Tar (9.2 to 7.5 mg), nicotine (0.67 to 0.58 mg), CO (8.0 to 6.6 mg) and menthol (0.38 to 0.32 mg) decreased - increased ventilation (36 to 45%). 5/84

BREEZE 85

Introduced - test market - king size mentholated, in soft pack - similar to Kool. 5/63

Discontinued.

CAPRI 100 (BOX)

Test marketed in Louisiana - delivers 9 mg tar and 0.7 mg nicotine - has a 17 mm circumference. 1/87

CAPRI 100 MENTHOL (BOX)

Test marketed in Louisiana - delivers 9 mg tar, 0.7 mg nicotine and 0.7 mg smoke menthol - has a 17 mm circumference. 1/87

CAPRI LONGS 100

100 mm mentholated cigarette with 22 mm CA filter - Lower smoke menthol than Kool 100. 9/67

Filter length (22 to 25 mm) and tipping paper length (27 to 30 mm) increased - Paper porosity changed (21 to 10 seconds) - No change in tar. 11/68

Discontinued. 12/79

CAPRI 110

Introduced a new 110 mm cigarette 24.7 mm in circumference. Tar (19 mg) and nicotine (1.5 mg); 30 mm CA filter; 35 mm tipping paper. 3/75

Discontinued. 12/75

CAPRI MENTHOL 110

Introduced a new 110 mm menthol cigarette 24.7 mm in circumference. Tar (19 mg) and nicotine (1.5 mg); 30 mm CA filter; 35 mm tipping paper. 5/75

Discontinued. 12/75

2021196271

CAPRI 120 (BOX)

Test marketed in New Orleans, LA - delivers 13 mg tar and 0.9 mg nicotine - has a 17 mm circumference.

11/88

CAPRI MENTHOL 120 (BOX)

Test marketed in New Orleans, LA - delivers 12 mg tar, 0.8 mg nicotine and 1 mg smoke menthol - has a 17 mm circumference.

11/88

CHEVRON 85

Introduced - test market - king size filter, in soft pack - similar to Viceroy.

3/63

Discontinued.

CORONET 85 (NF)

Introduced - king size, nonfilter in new aluminum foil wrapper - similar to Raleigh plain end.

10/62

Discontinued.

DOVER LONGS 100

Introduced - 100 mm cigarette with 22 mm CA filter.

2/67

Tar (4 mg) and nicotine (0.4 mg) reduced by changes in the filter and in the blend.

11/67

Discontinued.

12/68

ELI CUTTER 70 (NF)

Introduced in Sacramento, CA and Denver, CO - delivers 21 mg tar and 1.3 mg nicotine - packed in a black pack.

11/84

Discontinued

ELI CUTTER 80 (BOX)

Introduced in Sacramento, CA and Denver, CO - delivers 15 mg tar and 1 mg nicotine - packed in a black pack - micro-mechanical ventilation system.

11/84

Discontinued.

2021196272

ELI CUTTER 85

Introduced in Sacramento, CA and Denver, CO - delivers
15 mg tar and 1 mg nicotine - packed in a black pack -
micro-mechanical ventilation system. 11/84

Reintroduced in a red package in Oklahoma - delivers
16 mg tar, 1.1 mg nicotine. 9/86

ELI CUTTER LIGHTS 85

Test marketed in Oklahoma - packaged in a beige pack. This
cigarette delivers 11 mg tar and 0.9 mg nicotine. This brand
contains a new type of reconstituted tobacco that is a cast
sheet material containing diammonium phosphate. 9/86

FACT 85

Test marketed - CA filter with a pocket in the middle
containing yellowish granules identified as Duolite -
Tar (14 mg) and nicotine (1.0 mg) deliveries. 7/75

Cigarette paper changed to mechanically perforated with
citrate as paper component. Tipping paper increased from
30 to 32 mm. 4/76

Introduction of Hauni ventilation (20%) resulted in lower
tar delivery (14 to 11 mg). 7/77

Re-introduced with new packaging and lower tar (9 mg) and
nicotine (0.7 mg) deliveries. Lower deliveries accomplished
using more efficient filter and higher level of ventilation
(30%). Continues to utilize "Duolite" granules in filter. 9/77

Discontinued. 12/77

FACT MENTHOL 85

Menthol - test marketed CA filter with a pocket in the
middle containing yellowish granules identified as Duolite.
Tar (13 mg) and nicotine (0.9 mg) deliveries. Cigarette
paper - mechanically perforated with citrate as paper
component. 4/76

Introduction of Hauni ventilation (30%) resulted in lower
tar delivery (13 to 11 mg). 7/77

Re-introduced with new packaging and lower tar (9 mg) and
nicotine (0.7 mg) deliveries. Lower deliveries accomplished
using a more efficient filter and higher level of ventilation
(30%). Continues to utilize "Duolite" granules in filter. 9/77

Discontinued. 12/77

2021196273

FIESTA 80 (SOFT PACK)

Test marketed in southern California - manufactured in Mexico - delivers 14 mg tar and 0.6 mg nicotine. 3/85

FLAIR 100

Plain - 100 mm slim cigarette with 27 mm CA filter. 2/70

Discontinued.

FLAIR MENTHOL 100

Menthol - 100 mm slim cigarette with 27 mm CA filter. 2/70

Discontinued.

HALLMARK 85

Plain - New cigarette designed to give uniform smoke deliveries from first puff to last puff - The cigarette paper is coated with sodium chlorate at evenly spaced intervals. 9/70

Discontinued. 12/70

HALLMARK MENTHOL 85

Menthol - New cigarette designed to give uniform smoke deliveries from first puff to last puff - The cigarette paper is coated with sodium chlorate at evenly spaced intervals. 9/70

Discontinued. 12/70

HALLMARK 100

Introduced - test market - packaged in a slide and shell box with an automatic top opening device and delivers 24 mg tar. Blend contains no reconstituted tobacco or expanded stems; filter contains modified ion exchange resin (Duolite). 7/76

Discontinued.

HALLMARK MENTHOL 100

Introduced - test market - a mentholated version of Hallmark 100 cigarettes. Delivers 23 mg tar. 8/76

Discontinued.

2021196274

KENTUCKY KING 85

Introduced, king size. "All tobacco filter." 5/60

Phosphate treated paper. 3/61

Increased TPM and nicotine deliveries achieved by slower static burning and increased alkaloids. 2/62

Discontinued. 12/62

KIM SLIMS 100 (BOX) 25'S

Test marketed in Hawaii and Nashville, Tennessee - delivers 9 mg tar and 0.7 mg nicotine - has a 94 mm length. 7/86

KIM SLIMS 100 MENTHOL (BOX) 25'S

Test marketed in Hawaii and Nashville, Tennessee - delivers 9 mg tar, 0.7 mg nicotine and 0.5 mg smoke menthol - has a 94 mm length. 7/86

KOOL 80 (BOX)

Introduced in flip-top box - Similar to Kool 85. 5/74

KOOL 85

New filter, lower RTD. 6/60

Filter fiber denier and weight decreased, no change in filtration efficiency. 6/61

Filter length increased (17 to 20 mm); higher filter efficiency. 3/62

Carbowax (5%) observed in the filter. 12/63

Filler alkaloids increased resulting in higher nicotine delivery. 2/64

TPM (2 mg) and nicotine deliveries decreased as result of change in paper additive, phosphate to citrate. 3/64

Nicotine delivery decreased by decreasing filler alkaloids. 12/64

Filler alkaloids increased. 4/65

Fiber shape changed from I to Y. 3/66

TPM (1 mg) increased. 6/66

TPM (2 mg), nicotine (0.2 mg), and menthol in smoke (0.1 mg) decreased by increasing paper porosity. 10/66

2021196275

KOOL 85 (cont.)

TPM (2 mg) decreased as result of a blend change.	8/67
Filter length (20 to 21 mm) and tipping paper (24 to 25 mm) increased, no change in smoke deliveries.	4/68
Tar (1 mg) and nicotine (0.1 mg) were reduced correlating with a lower filler rod TPM.	7/68
Menthol in smoke and filler increased.	1/69
Reconstituted tobacco (8 to 12%) and RKS (11 and 15%) increased.	4/70
Addition of expanded RKS to blend replacing portion of regular RKS.	2/72
Tar (0.6 mg) and nicotine (0.05 mg) lower due to faster static burning time.	10/72
Reconstituted tobacco increased 11 to 15%.	5/73
Tipping paper length increased 25 to 26 mm - No other changes.	7/73
Menthol in smoke content increased by increasing filler menthol.	3/76
Higher CO (14 to 16 mg) - change to a less porous cigarette paper (14 to 20 sec.) with a higher level of paper component (0.2 to 0.7%)	11/85

KOOL 85 25's

Test market - similar to Kool 85 - eight packs in a carton for a total of 200 cigarettes.	11/85
Discontinued.	9/86

KOOL INTERNATIONAL MENTHOL 95

Test marketed - This brand is packaged in the princess pack. Tar (10 mg). Ventilation consists of 1 row of Laser perforated holes. This cigarette previously available only in foreign markets.	8/79
Discontinued.	

KOOL MILDS 80 (BOX)

Distributed nationally - delivers 11 mg tar, 0.8 mg nicotine and 0.6 mg smoke menthol.	7/86
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2021196276

KOOL MILDS 85

Introduced - Tar (16.5 mg) and nicotine (1.4 mg) - Very similar to Kool 85 except for total alkaloids. Regular and expanded RKS in blend (11%). 4/72

Marketed nationally in July, 1972, with longer filter (21 to 25 mm) and increased tipping paper length (25 to 30 mm). Increase of regular and expanded RKS (11 to 18%). These changes resulted in lower tar (3 mg) and nicotine (0.3 mg). 7/72

Lower total alkaloids (0.3%) and nicotine delivery (0.2 mg). 5/73

Blend change - Lower alkaloids and filler rod TPM resulting in lower tar (2 mg) and nicotine (0.2 mg). Lower puff count and higher RTD noted. 8/74

The addition of expanded tobacco at the 6% level was observed. This change resulted in lower tobacco weight and rod density and an increase in total RTD. 10/78

A lower tar (13 to 11 mg) achieved by introduction of filter ventilation (15%) and a change to a more porous cigarette paper. A blend change indicated by a high filler alkaloid content and lower reducing sugars. 10/79

Expanded tobacco eliminated (11 to 0%) - increase in tobacco weight. 3/81

Freon expanded tobacco has been added (11%) resulting in lower tobacco weight (0.692 to 0.670 g). 7/81

Higher CO delivery correlated with a less porous cigarette paper - longer tipping paper length. 1/86

KOOL MILDS 100

Test marketed - A brand extension of Kool Milds 85. Tar (13 mg) and nicotine (1.2 mg) with 19% ventilation. Blend contains 7% expanded tobacco. Ventilation achieved by a band of electrostatic perforation. 8/79

Expanded tobacco eliminated (11 to 0%) - increase in tobacco weight. 3/81

Freon expanded tobacco has been added (11%) resulting in lower tobacco weight (0.884 to 0.829 g). 7/81

Change to a less porous cigarette paper and an increased ventilation noted - no changes in smoke deliveries. 1/86

2021196277

KOOL NATURALS 85

Introduced - test market - delivers 14 mg tar. Similar to Fact 85 and Vanguard 85 cigarettes. Filter containing Duolite granules described as an "Actron" filter. 8/76

Discontinued.

KOOL 100

100 mm mentholated cigarette with 22 mm CA filter. 9/67

Changes in blend, filter length (22 to 25 mm), and tipping paper (27 to 30 mm) did not alter smoke deliveries. 8/68

Menthol in smoke and filter increased. 1/69

Addition of expanded RKS to blend replacing portion of regular RKS. 2/72

Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Lower tar (1 mg) and nicotine (0.1 mg). 2/73

Reconstituted tobacco content increased (11 to 15%). 5/73

Menthol in smoke content increased by increasing filler menthol. 3/76

Lower tar (18 to 17 mg) resulting from decrease in filler rod TPM delivery. An increase in total RTD was also observed. 5/78

Level of reconstituted tobacco increased from 10 to 16% and level of expanded stems decreased from 17 to 14%. 9/78

Lower tar (16 to 15 mg) and nicotine (1.2 to 1.1 mg) deliveries resulting from a change to a more porous cigarette paper (22 to 12 sec.). 12/78

The addition of 8% expanded tobacco was noted - This change resulted in a lower tobacco weight and rod density. 9/80

Higher tar (14 to 16 mg) and nicotine (0.9 to 1.1 mg) deliveries - increased filler rod TPM, tobacco weight and total alkaloid content - higher smoke menthol (0.4 to 0.5 mg) due to increased menthol in the filler and filter. 11/85

KOOL LIGHTS 85

Name changed from Kool Super Lights 85. Ventilation system changed to two rows of mechanical perforation. These cigarettes are lower in tar (8.6 mg) because of a more efficient filter and higher ventilation level. 9/81

2021196278

KOOL LIGHTS 100

Name changed from Kool Super Lights 100. Ventilation system changed to two rows of mechanical perforation. These cigarettes are lower in tar (12.3 mg) because of a more efficient filter and higher ventilation level. 9/81

Tar (11 to 10 mg), nicotine (0.9 to 0.8 mg) and CO (10 to 8 mg) decreased due to increased ventilation (28 to 38%). 5/83

Change to a less porous cigarette paper (14 to 21 seconds) was observed - no changes in smoke deliveries. 11/86

Tar, nicotine and CO decreased as a result of increased ventilation and more porous cigarette paper. 7/87

KOOL SUPER LIGHTS 85

Introduced - 85 mm mentholated cigarette - low tar (9 mg) and nicotine (0.7 mg) resulted primarily from filter ventilation (25%) and low available TPM filler. Mechanically perforated cigarette paper. Typical Brown & Williamson blend. Tar (9 mg) and nicotine (0.8 mg) listed on pack. 7/77

Tar (9 to 6 mg) and nicotine (0.8 to 0.6 mg) deliveries were decreased by increasing the filter ventilation and lowering the tobacco weight. Lower tobacco weight result of addition of 6% expanded tobacco. Paper porosity changed from 7 to 13 seconds. Data listed on pack as tar (7 mg) and nicotine (0.7 mg). 7/79
Discontinued.

KOOL SUPER LIGHTS 100

Introduced - 100 mm mentholated cigarette - low tar (9 mg) and nicotine (0.8 mg) achieved by filter ventilation (35%) and low available TPM filler. Typical Brown & Williamson blend. Tar (9 mg) and nicotine (0.8 mg) listed on pack. 7/77

Addition of 10% expanded tobacco resulted in a lower tobacco weight and rod density. 11/80

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight - tar and nicotine data printed on packs has been removed. 3/81

Tar (8.1 to 9.4 mg), nicotine (0.65 to 0.72 mg) and CO (9.9 to 12.2 mg) increase - reduced filter ventilation (32 to 24%). 4/81
Discontinued.

2021196279

KOOL ULTRA 85

Introduced - test market - tar and nicotine deliveries advertised as 2 mg and 0.3 mg, respectively. The filter system is similar to that of the Barclay with mechanical perforation and four longitudinal grooves along the filter. 9/81

Filter changed from "Actron" filter (Barclay-type) to conventional cellulose acetate filter - higher total and filter RTD, lower ventilation and less porous cigarette paper were also noted. Higher smoke deliveries resulted from these changes. Higher smoke menthol correlated with increased filler and filter menthol. 11/86

Filter changed back to "Actron" (Barclay-type) filter. 7/87

KOOL ULTRA 100

Introduced - test market - tar and nicotine deliveries are 5.7 mg and 0.53 mg, respectively. The filter system is similar to that of the Barclay with mechanical perforation and four longitudinal grooves along the filter. 9/81

Filter changed from "Actron" filter (Barclay-type) to conventional cellulose acetate filter - higher total and filter RTD, lower ventilation and less porous cigarette paper were also noted. Higher smoke deliveries resulted from these changes. A longer filter length was observed. 11/86

Filter changed back to "Actron" (Barclay-type) filter. 7/87

LIFE 85

TPM (7 mg) and nicotine (0.5 mg) increased by decrease in filter efficiency - Filter changed from 25 mm paper to 25 mm CA. 2/66

TPM (5 mg) and nicotine (0.3 mg) decreased as a result of increase in filter efficiency. Filter changed from 25 mm CA to dual filter 12.5 mm CA and 12.5 mm paper. 12/66

TPM (2 mg) decreased as result of increased filter efficiency - Filter changed to an 18 mm/7 mm (paper/CA). 2/67

TPM (4 mg) and nicotine (0.2 mg) increased as result of a change in filter construction 12.5/12.5 mm (paper/CA) which resulted in decrease in filter efficiency. 3/67

Discontinued.

2021196280

LIFE FILTER 100

Lowest tar delivery of any 100 mm - Dual filter, paper inner plug, and cellulose acetate outer plug - Tar (10 mg) and nicotine (0.8 mg) data are listed on pack.

6/70

Filter changed from 25 mm dual (paper/CA) to 27 mm CA. Total and filter RTD increased.

8/73

Discontinued.

LYME 85

New flavor - lime-menthol product - Tar (14 mg) and nicotine (0.9 mg) low for B & W product.

10/71

Discontinued.

PHOENIX 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper containing azo dyes - Circumference 21 mm - Tar (19 mg) and nicotine (1.4 mg) deliveries.

7/75

Discontinued.

PHOENIX MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper containing azo dyes - Circumference 21 mm - Tar (19 mg) and nicotine (1.4 mg) deliveries.

7/75

Discontinued.

PRINCE 85

Imported by Brown & Williamson from Denmark - manufactured by Scandanavian Tobacco International - delivers 16 mg tar and 1.3 mg nicotine. A high level of expanded stem (24%) was in the blend.

11/88

PRINCE LIGHTS 85

Imported by Brown & Williamson from Denmark - manufactured by Scandanavian Tobacco International - delivers 12 mg tar and 1.0 mg nicotine. A high level of expanded stem (24%) was in the blend.

11/88

RALEIGH 70 (FILTER)

Test marketed in southern California - manufactured in Mexico - delivers 16 mg tar and 0.8 mg nicotine.

3/85

2021196281

RALEIGH FILTER 85

Lighter filter with same efficiency.	4/61
Carbowax (5%) observed in the filter.	12/63
Filler alkaloids increased resulting in higher nicotine delivery.	1/64
TPM (4 mg) and nicotine (0.2 mg) decreased as result of change in paper component, phosphate to citrate.	6/64
Fiber shape changed from I to Y.	3/66
TPM (2 mg) increased.	6/66
TPM (2 mg) decreased, paper porosity increased and cigarette length decreased.	2/67
Reconstituted tobacco increased, 6 to 9%.	3/67
Tar (1 mg) reduced by changes to a more porous paper and in tipping paper (24 to 25 mm).	4/68
Filter length increased (20 to 21 mm).	7/68
Reconstituted material increased, 5 to 9%.	9/68
Paper porosity changed (11 to 17 seconds) - No change in tar.	1/69
Tar (2 mg) and nicotine (0.2 mg) decreased, lower alkaloids and tobacco weight observed.	8/69
RKS increased (7 to 18%).	10/69
Addition of expanded RKS to blend replacing portion of regular RKS.	3/72
Tipping paper length increased 25 to 26 mm - No other changes.	7/73
Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight - tar and nicotine data printed on pack has been removed.	3/81
Tobacco weight decreased (0.778 to 0.732 g) due to addition of 4% Freon expanded tobacco to the blend.	11/83
Tar (13.6 to 13.1 mg) and CO (16.5 to 13.8 mg) decreased - change to a more porous cigarette paper (23 to 12 sec.).	1/85
Increased expanded tobacco (4 to 10%) - decreased tobacco weight.	7/85

2021196282

RALEIGH LIGHTS 85

Introduced - 85 mm version of Raleigh 85 with lower tar (13 mg) and nicotine (0.9 mg). It has 25 mm CA filter and 30 mm tipping paper. 4/73

Brand name changed from Raleigh Extra Milds 85 to Raleigh Lights 85. No other changes were noted. 10/76

Decrease in tar delivery (12 to 10 mg) resulting from introduction of filter ventilation (24%) and a change to a more efficient filter. Changed to a high alkaloid blend and replaced mechanically perforated cigarette paper with inherently porous paper. 4/78

Tar (9 to 8 mg) and nicotine (0.9 to 0.8 mg) deliveries lower correlating with a lower filler rod 'PM'. 3/79

12% Freon expanded tobacco added to blend. 5/83

Increased amount of reconstituted material and decreased amount of expanded stems - changed to a less porous cigarette paper. 9/85

Tipping paper length increased - lower tar and nicotine deliveries and a lower puff count resulted. 3/86

Expanded tobacco removed from the blend resulting in an increased tobacco weight and rod density. 1/88

Introduced - 100 mm version of Raleigh Lights 85 with 10 mg tar and 0.9 mg nicotine. 27 mm CA filter with 24% ventilation. 8/78

Tar (7.8 to 9.8 mg), nicotine (0.68 to 0.81 mg) and CO (10.7 to 14.4 mg) increased - decrease in filter ventilation (34 to 19%) - higher RTD (4.9 to 5.6). 2/81

Tar (10 to 9 mg), nicotine (0.9 to 0.8 mg) and CO (13 to 11 mg) decreased due to increased ventilation (26 to 32%). 5/83

12% Freon expanded tobacco added to blend resulting in lower tobacco weight (0.892 to .826 g/cc) and rod density (0.251 to 0.230 g/cc). Fiber denier changed (2.6/Y to 3.2/Y) resulting in lower filter RTD (4.1 to 3.3 in. H₂O) - decrease in filtration efficiency (59 to 52%). Tar increased (9 to 10 mg). 1/84

Increased amount of reconstituted material and decreased amount of expanded stems - more efficient filter used. 9/85

Tar (9 to 11 mg) nicotine (0.7 to 0.8 mg) and CO (11 to 13 mg) increased - decreased ventilation (27 to 20%). 11/85

2021196283

RALEIGH LIGHTS 85

Expanded tobacco removed from the blend. Higher tar, nicotine and CO deliveries resulted; longer filter length was observed (27 to 30 mm). 1/88

RALEIGH 100

100 mm cigarette with 25 mm CA filter. 8/69

Coupon on pack. 9/69

Tar (1 mg) increased correlating with a change in paper porosity (13 to 25 seconds). 3/71

Addition of expanded RKS to blend replacing a portion of regular RKS. 3/72

Tar (1.5 mg) and nicotine (0.1 mg) lower - Lower tobacco weight and rod density noted. 5/72

Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Tar (1 mg) and nicotine (0.1 mg) decreased. 12/72

Lower tar (17 to 16 mg) resulting from decrease in filler rod TPM delivery. 5/78

Addition of expanded tobacco at the 6% level correlating with a lower tobacco weight and rod density. Lower tar (17 to 16 mg) and filler rod TPM deliveries noted. 4/79

Lower tar (16 to 15 mg) and nicotine (1.2 to 1.1 mg) resulting from a change to a more porous cigarette paper. 1/80

Tar (7.8 to 9.8 mg), nicotine (0.68 to 0.81 mg) and CO (10.7 to 14.4 mg) increased - decrease in filter ventilation (34 to 19%) - higher RTD (4.9 to 5.6). 2/81

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight - tar and nicotine data printed on pack has been removed. 3/81

4% Freon expanded tobacco added to blend resulted in lower tobacco weight (0.886 to 0.831 g) and rod density (0.250 to 0.233 g/cc). 1/84

RICHLAND 85

Introduced - contains 25 cigarettes per pack - delivers 15 mg tar and 1.2 mg nicotine - similar to Viceroy 85. 9/83

National distribution. 6/85

2021196284

RICHLAND LIGHTS 85

Introduced - contains 25 cigarettes per pack - delivers
11 mg tar and 0.8 mg nicotine. 5/85

National distribution. 6/85

Expanded stems removed from the blend (11% to none) -
increased tobacco weight and rod density - higher filler
rod TPM correlated with this change. 5/87

RICHLAND MENTHOL 85

Introduced - contains 25 cigarettes per pack - delivers
15 mg tar, 1.1 mg nicotine, and 0.5 mg menthol - similar
to Kool 85. 9/83

National distribution. 6/85

Higher CO delivery resulted from less porous cigarette
paper with an increased level of paper component. 3/86

RICHLAND 100 25'S

Introduced nationally - 250 cigarettes per carton -
delivers 16 mg tar and 1.1 mg nicotine. 5/86

RICHLAND LIGHTS 100 25'S

Introduced nationally - 250 cigarettes per carton - delivers
11 mg tar and 0.8 mg nicotine. 5/86

ST. JAMES COURT 85

Introduced in Portland, Oregon; New Orleans, Louisiana; and
Phoenix, Arizona - utilizes a dual cellulose
acetate filter which consists of a 7 mm formed Filtrona
section and a 20 mm "Actron" section - the Actron section
contains a 20 mm cellulose acetate tube - the blend is
not typical of Brown & Williamson products. 11/84

Test market expanded to Hawaii. 6/85

ST. JAMES COURT MENTHOL 85

Introduced in Portland, Oregon; New Orleans, Louisiana,
and Phoenix, Arizona - utilizes a dual cellulose
acetate filter which consists of a 7 mm formed Filtrona
section and a 20 mm "Actron" section - the "Actron"
section contains a 20 mm cellulose acetate tube - the
blend is similar to Kool Lights. 11/84

Test market expanded to Hawaii. 6/85

2021196285

ST. JAMES COURT 100 (BOX)

Introduced in Portland, Oregon; New Orleans, Louisiana; and Phoenix, Arizona - utilizes a dual cellulose acetate filter with a 7 mm formed Filtrona section and a 20 mm "Actron" section - the "Actron" section contains a 20 mm cellulose acetate tube - the blend is not typical of Brown & Williamson products.

11/84

Test market expanded to Hawaii.

6/85

ST. JAMES COURT MENTHOL 100 (BOX)

Introduced in Portland, Oregon; New Orleans, Louisiana; and Phoenix, Arizona - utilizes a dual cellulose acetate filter with a 7 mm formed Filtrona section and a 20 mm Actron section - the "Actron" section contains a 20 mm cellulose acetate tube - the blend is similar to Kool Lights.

11/84

Test market expanded to Hawaii.

6/85

SEVENTY 70

Plain - test marketed with mechanically perforated cigarette paper and 17 mm CA filter - 10 mg tar and 0.7 mg nicotine.

6/76

Discontinued.

SEVENTY MENTHOL 70

Menthol - test marketed with mechanically perforated cigarette paper and 17 mm CA filter - 10 mg tar and 0.7 mg nicotine.

6/76

Discontinued.

SPIRIT 85

Test marketed - 85 mm cigarette delivering 8 mg tar and 0.9 mg nicotine - This new brand has a high efficiency, 25 mm CA filter with 30% ventilation.

10/78

Discontinued.

SPIRIT 100

Test marketed - 100 mm cigarette delivering 9 mg tar and 1.0 mg nicotine - This new brand has a high efficiency, 27 mm CA filter with 27% ventilation.

10/78

Discontinued.

2021196286

SUEDES 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper colored with azo dyes - Tar (17 mg) and nicotine (1.2 mg) deliveries - Circumference 21 mm.

9/75

Discontinued.

SUEDES MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper colored with azo dyes - Tar (19 mg) and nicotine (1.3 mg) deliveries - Circumference 21 mm.

9/75

Discontinued.

TRAMPS 85

Plain - Introduced - Light brown cigarette paper colored with caramelized sugar. Tar (19 mg) and nicotine (1.1 mg) deliveries.

9/74

Introduced with regular cigarette paper. Lower tar and nicotine deliveries than previous sample.

10/74

Tar (19 to 16 mg) and nicotine (1.3 to 1.1 mg) decreased. Filler rod TPM decreased (36 to 31 mg). Smoke deliveries change as result of paper change.

4/75

Discontinued.

12/75

TRAMPS MENTHOL 85

Menthol - Introduced - Light brown cigarette paper colored with caramelized sugar. Tar (19 mg) and nicotine (1.1 mg) deliveries.

9/74

Introduced with regular cigarette paper. Lower tar and nicotine deliveries than previous sample.

10/74

Tar (19 to 17 mg) and nicotine (1.1 to 1.0 mg) decreased. Smoke deliveries change as result of paper change.

4/75

Discontinued.

12/75

TRAMPS 110

Introduced plain 110 mm cigarette with light brown cigarette paper colored with caramelized sugar. Circumference 24.6 mm, 30 mm CA filter, and 35 mm tipping paper.

4/75

Discontinued.

12/75

2021196287

TRAMPS MENTHOL 110

Introduced menthol 110 mm cigarette with light brown cigarette paper colored with caramelized sugar. Circumference 24.6 mm, 30 mm CA filter, and 35 mm tipping paper. 4/75

Discontinued.

VANGUARD 85

Introduced - Similar to Fact 85 cigarettes previously introduced - CA filter with pocket in the middle containing yellowish granules identified as Duolite - Tar (14 mg) and nicotine (1.0 mg) deliveries. 8/75

Discontinued.

VANGUARD MENTHOL 85

Introduced - test market - mentholated version of Vanguard 85 - Delivers 14 mg tar. 7/76

Discontinued.

VICEROY 85

"Deep Weave," more efficient filter. 8/60

Lighter, slightly less efficient filter resulted in slight increase in TPM and nicotine delivery. 6/61

Total RTD reduced 20 mm H2O by changes in plug RTD, rod circumference, tobacco weight, and paper porosity. 8/62

Filter contains carbowax (5%). 5/63

Filter length has increased from 17 to 20 mm. 8/63

Filler alkaloids increased resulting in a higher nicotine delivery. 1/64

TPM (3 mg) and nicotine deliveries decreased, a result of a more porous cigarette paper. 2/64

TPM (2 mg) increased. 6/66

TPM (2 mg) decreased as result of blend change. 8/67

TPM (1 mg) reduced by changes to a more porous paper and in tipping paper (24 to 25 mm). 4/68

Reconstituted material increased, 6 to 9%. 9/68

Tar increased (1 mg) - Change in paper porosity (11 to 18 seconds) noted. 5/69

2021196288

VICEROY 85 (cont.)

Tar (1 mg) and nicotine (0.1 mg) decreased, amount of paper component in cigarette paper increased. 7/69

RKS increased (11 to 14%). 10/69

RKS increased (13 to 18%). 10/70

Addition of expanded RKS to blend replacing portion of regular RKS. 3/72

Tipping paper length increased 25 to 26 mm - No other changes. 7/73

Package design change - Tar (15 to 17 mg) and nicotine (1.0 to 1.1 mg) deliveries increased. Blend change observed. 6/75

Tar (15.0 mg) and nicotine (1.0 mg) deliveries returned to level prior to package design change. 10/75

Lower tar (16 to 14 mg) and nicotine (1.1 to 1.0 mg) deliveries achieved by change to a more efficient filter. Changes in total and filter RTD and filter fiber denier also noted. 3/78

Addition of expanded tobacco at the 6% level was observed. First time a Brown & Williamson product containing expanded tobacco was obtained from the market. Decrease in tobacco weight along with lower tar (14 to 13 mg) and nicotine (1.0 to 1.9 mg) deliveries resulting from the addition of expanded tobacco. 9/78

Tar increased (13.8 to 14.7 mg) due to decreased filtration efficiency (48 to 40%) and change in fiber denier (3.0 to 3.7). 3/83

Tar (15.5 to 14.2 mg) and CO (16.0 to 14.2 mg) decreased - change to a more porous cigarette paper (23 to 12 sec.). 1/85

VICEROY EXTRA MILD 85

Introduced - Very similar to Viceroy Lights 85 previously test marketed by Brown & Williamson. 4/74

Tar (14 to 11 mg) and nicotine (1.0 to 0.8 mg) decreased by the introduction of Hauni ventilation at the 23% level. A decrease in total RTD was also noted. 1/77

Blend change resulting in higher filler rod TPM delivery. Changed to a more efficient filter and discontinued use of mechanically perforated cigarette paper. No change in tar or nicotine deliveries observed. Changed from Hauni ventilation to mechanically perforated tipping paper. 4/78

Discontinued. 12/78

2021196289

VICEROY RICH LIGHTS 85

Introduced - Tar (9 mg) and nicotine (0.8 mg) with a 25 mm CA filter and 36% ventilation. Similar to Viceroy Extra Milds 85 cigarettes. 8/78

12% Freon expanded tobacco added to blend. 5/83

Name changed to Viceroy Lights. 7/85

VICEROY LIGHTS 85

Introduced - Tar (12.5 mg) and nicotine (1.0 mg), 25 mm CA filter - 30 mm tipping paper - Blend contains expanded RKS. 4/72

Increased level of reconstituted material and decreased level of expanded stems - changed to a less porous cigarette paper. 9/85

Tipping paper length increased. 5/86

Increased level of reconstituted material and decreased level of expanded stems - changed to a less porous cigarette paper. 9/85

Expanded stems removed from the blend (11% to none) - increased tobacco weight and rod density - higher filler rod TPM correlated with this change. 5/87

VICEROY 100

100 mm cigarette with 22 mm CA filter. 10/67

Tar (2 mg) and nicotine (0.1 mg) reduced by changes in filter length (22 to 25 mm), tipping paper (27 to 30 mm) and to a more porous paper (20 to 12 seconds). 8/68

Tar (1 mg) increased. Change in paper porosity (11 to 20 seconds) noted. 5/69

Tar (2 mg) and nicotine (0.2 mg) decreased, change in paper porosity (21 to 14 seconds). 6/69

RKS increased (11 to 14%). 10/69

Tar (2 mg) and nicotine (0.1 mg) were reduced correlating to lower filler rod TPM - A decrease in alkaloids and higher reducing sugars were observed - An increase in RKS was noted. 9/70

RKS increased (13 to 18%). 10/70

Tar (1 mg) increased correlating with change in paper porosity (12 to 22 seconds). 3/71

2021196290

VICEROY 100 (cont.)

Addition of expanded RKS to blend replacing portion of regular RKS.	3/72
Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Tar (2 mg) and nicotine (0.2 mg) decreased.	12/72
Package design change. Tar (16 to 17 mg) and nicotine (1.1 to 1.2 mg) deliveries increased. Blend change observed.	6/75
Decrease in tar (18 to 16 mg) and nicotine (1.3 to 1.1 mg) deliveries resulting from a change to a more porous cigarette paper.	11/77
Addition of expanded tobacco at the 7% level correlated with lower tobacco weight and rod density.	5/80
Tar (14 to 16 mg), nicotine (1.0 to 1.1 mg), filler rod TPM (27 to 29 mg) and total alkaloids (1.60 to 1.72%) increased. 9% ventilation added to brand - CO decreased (16 to 14 mg).	3/84

VICEROY RICH LIGHTS 100

Introduced - 100 mm cigarette delivering 8 mg tar and 0.8 mg nicotine. 27 mm CA filter with 40% ventilation. This is a brand extension of Viceroy Rich Lights 85 cigarettes.	9/78
Tar value (8 to 9 mg) changed on pack to comply with FTC Report.	5/82
12% Freon expanded tobacco added to blend.	5/83
Tar (11.5 to 10.2 mg) and CO (11.2 to 9.6 mg) decreased - ventilation increased (20 to 29%).	9/84
Tar (10.2 to 11.6 mg) and CO (9.6 to 11.4 mg) increased - decreased ventilation (29 to 21%).	3/85
Name changed to Viceroy Lights.	7/85

VICEROY LIGHTS 100

Increased level of reconstituted material and decreased level of expanded stems - more efficient filter.	9/85
Filter length increased - lower tobacco weight resulted - change in fiber denier - no changes in smoke deliveries.	3/86
Expanded tobacco removed from the blend resulting in an increased tobacco weight and rod density.	1/88

2021196291

WINGS FILTER 85

85 mm cigarette - 20 mm CA filter - contains 25%
reconstituted material.

3/67

Discontinued.

12/68

2021196292